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February 1989

ENVIRONMENTAL
IMPACT
REPORT

Addendum

Volume 2A: Response To Comments

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South Coast Air Quality Management District



Southern California Association of Governments

February 1989

ENVIRONMENTAL IMPACT REPORT

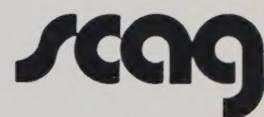
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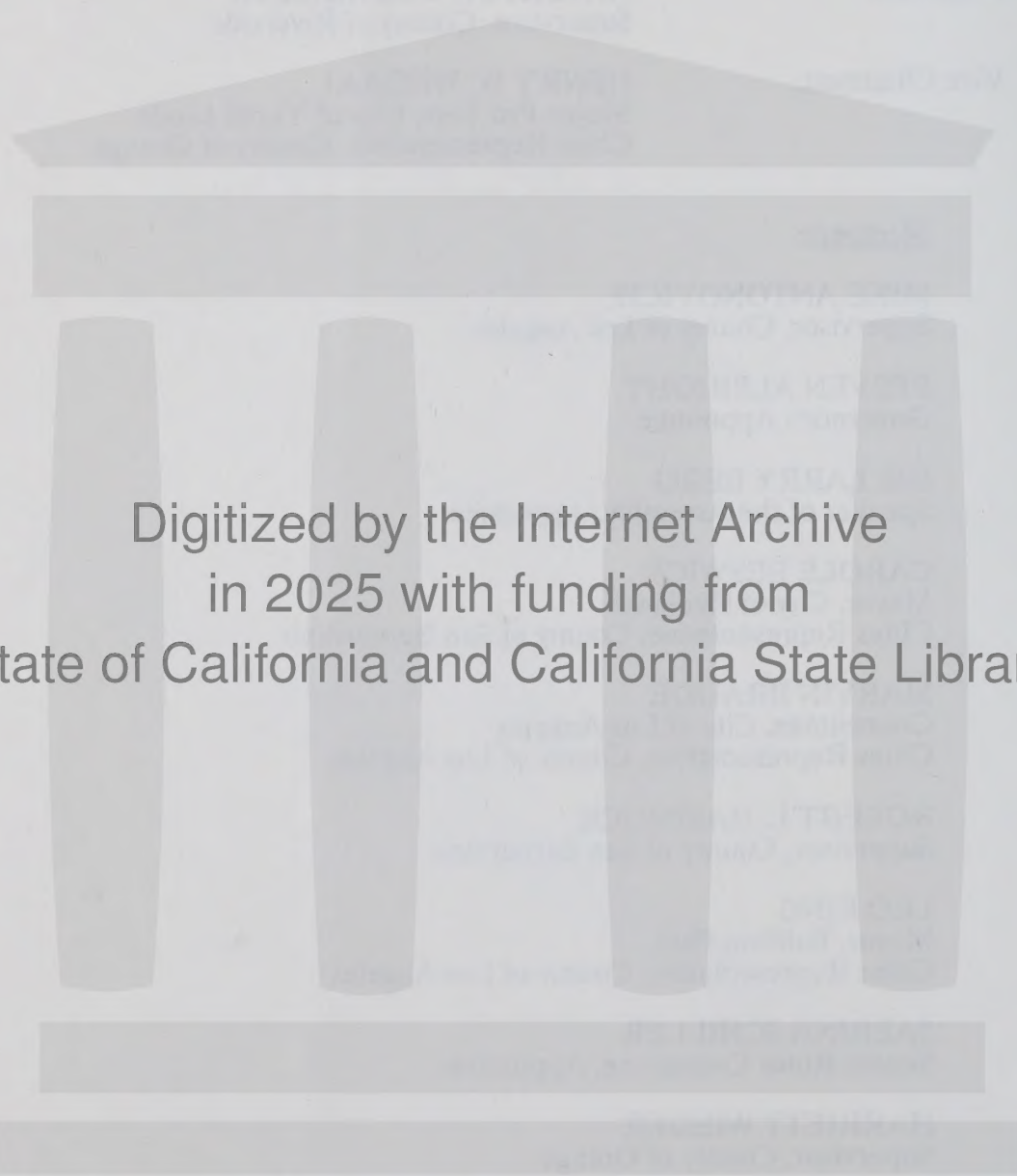
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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Addendum to Final Environmental Impact Report 1988 Revision to the Air Quality Management Plan

SCH No. 88021022

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February 1989

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PREFACE

On December 16, 1988, the South Coast Air Quality Management District Governing Board continued the public hearing on adoption of the Final Air Quality Management Plan and certification of the Final Environmental Impact Report to March 17, 1989. This continuance was designed to extend the public comment period on the Final Environmental Impact Report and its appendices for 45 days, to February 1, 1989. This Addendum has been prepared to respond to comments received and to summarize previously prepared environmental information. The Addendum includes a separately bound Executive Summary and this response to all comments on the Final Environmental Impact Report.

This Addendum is being released for a 15-day public review and comment period (February 20, 1989 through March 7, 1989). All comments on this Addendum must be received at the District office in El Monte by close-of-business on March 7, 1989. Responses to comments will be incorporated into a staff report, to be available at the District offices beginning March 14, 1989.

INTRODUCTION

INTRODUCTION

This Addendum to the December, 1988 EIR consists of two volumes: Volume I is a separately bound Executive Summary and Volume II is a separately bound volume of responses to comments, which consists of two parts, IIA and IIB. For an overview of the whole EIR and its findings to date, the reader should refer to the Executive Summary; for details, the reader should refer to the December, 1988 EIR and Volumes IIA and IIB, which consist of comments, responses, and attachments.

Volumes IIA and IIB of the Addendum contain the responses to comments received on the Air Quality Management Plan (AQMP) Draft Environmental Impact Report (EIR) and on the EIR that was published in December, 1988. So that the reader can relate responses to specific comments, the comment letters and their responses are numbered and are reproduced opposite each other. This Addendum is designed to enhance communication and promote understanding of issues in fulfillment of the California Environmental Quality Act (CEQA), Section 21002.1.

Responses to Comments

Several hundred comment letters were received on the AQMP and the EIR. Responses have been made only to those 87 letters containing comments that address the EIRs. (A list of letters which comment only on the AQMP can be found in Attachment 11 to Volume IIB; these letters are not reproduced here but are available for review upon request at the District's office in El Monte.)

The responses to comments which are found in Volume IIA contain 48 letters commenting primarily on the Draft EIR.

Volume IIB contains 39 letters commenting primarily on the December, 1988 EIR which were received through February 1, 1989.

All comments and responses have been paginated sequentially. To separate comments on the Draft EIR from those on the December, 1988 EIR, the Draft EIR comment letters are numbered sequentially from 1 to 48, and the

December, 1988 EIR comment letters are alphabetized from A to Z and then from AA onward.

To find a comment letter submitted by a specific individual or organization, look at the alphabetized list of commentors which begins on page 9 of this volume. A separate, sequential list for both the Draft EIR comment letters and the December, 1988 EIR comment letters begins on page 3.

Comment letters have been organized to place those letters with the most comments and the broadest range of comments at the front of the document. This arrangement serves two purposes; first, it gives the reader the maximum amount of information at the front of the document; and second, it allows reference to these first responses in later responses.

Attachments

Several technical issues were raised that required lengthy responses. A few of these responses appear as appendices to specific letters, but the majority were made into attachments and placed after the last comment letter and its responses.

A good example is Attachment 2, which responds to extensive comments from Southern California Edison (SCE) and the Western States Petroleum Association (WSPA, formerly the Western Oil and Gas Association). In comments presented to the District Board, SCE and WSPA requested that alternative air quality management strategies proposed by each be evaluated in detail. Attachment 2 contains this evaluation, but does not change the conclusions regarding alternatives outlined in Table 5-3 (discussed in Chapter 5) of the December, 1988 EIR.

Reference List

The last section of this volume contains a list of the references that are cited in the responses to comments.

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RESPONSES TO COMMENTS

COMMENTS 1 THROUGH 48

Southern California Edison Company

P O BOX 800
2244 WALNUT GROVE AVENUE
ROSEMEAD CALIFORNIA 91770

October 27, 1988

Dr. James M. Lents
Executive Officer
South Coast Air Quality
Management District
9150 Flair Drive
El Monte, CA 91731

Dear Dr. Lents:

SUBJECT: Comments on Draft 1988 Air Quality Management Plan
and Environmental Impact Report

The Southern California Edison Company supports the District's goal to prepare an air quality plan for meeting federal clean air mandates. We understand the need to improve air quality in order to meet federal health based standards and support cost-effective controls such as ridesharing and electrification.

Edison believes the District staff has not gathered and analyzed the necessary minimum information to allow the Board to approve the proposed air quality plan. The proposed plan will not meet federal air quality mandates as soon as other less costly alternatives. The draft AQMP and EIR fail to evaluate cost-effective alternatives to the District plan and ignores key environmental issues and impacts.

The District and SCAG need to address and correct major omissions in the draft EIR before adopting the final EIR. Such action is called for under CEQA and applicable state law.

Edison's comments focus on the presentation of a Cost-Effective/Early Attainment Alternative, discussion of other least cost strategies, alternative plans for PM10 and NO2 attainment, discussion of major CEQA omissions and deficiencies, and electric system planning study needs.

COST EFFECTIVE/EARLY ATTAINMENT ALTERNATIVE:

There are more cost-effective alternatives for meeting the federal air quality standards than the District's proposed alternative. The District and SCAG should thoroughly evaluate and discuss other alternatives in the draft AQMP and EIR.

RESPONSES TO COMMENTS
SOUTHERN CALIFORNIA EDISON (10/27/88)
LETTER #1

1-1

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Substantial data were provided to support conclusions about impacts, particularly those related to air quality. As described in the Executive Summary (part of this Addendum under separate cover) the AQMP is similar to a General Plan. Thus the depth of information and degree of detail in the evaluation are, of necessity, very general. The focus of the impact analysis is most often qualitative (not quantitative) and reflects the level of information available at this tier of review.

Alternative strategies that were proposed for attaining ambient air quality standards were evaluated by the District at the request of Southern California Edison and WOGA (now WSPA). This information is contained in Attachments 1 and 2. Based on its evaluation, the District concluded the followings: that all ambient air quality standards cannot be attained by either the SCE or WOGA strategies; that adverse impacts would be reduced by these alternatives (including economic and socioeconomic impacts); and that earlier improvements identified for ozone will occur but are not as dramatic as claimed by SCE or WOGA.

000014

Southern California Edison Company

P. O. BOX 800
2244 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770

October 27, 1988

Dr. James M. Lents
Executive Officer
South Coast Air Quality
Management District
9150 Flair Drive
El Monte, CA 91731

Dear Dr. Lents:

SUBJECT: Comments on Draft 1988 Air Quality Management Plan
and Environmental Impact Report

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Edison believes the District staff has not gathered and analyzed the necessary minimum information to allow the Board to approve the proposed air quality plan. The proposed plan will not meet federal air quality mandates as soon as other less costly alternatives. The draft AQMP and EIR fail to evaluate cost-effective alternatives to the District plan and ignores key environmental issues and impacts.

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COST EFFECTIVE/EARLY ATTAINMENT ALTERNATIVE:

There are more cost-effective alternatives for meeting the federal air quality standards than the District's proposed alternative. The District and SCAG should thoroughly evaluate and discuss other alternatives in the draft AQMP and EIR.

1-2

According to Section 15151 of the CEQA Guidelines:

"An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects need not be exhaustive, but the sufficiency of the EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have not looked for perfection but for adequacy, completeness, and a good faith effort at disclosure."

Please refer also to the response for comment 1-1 which discusses the depth of analysis required by an EIR. Note that substantial additional information has been added to the record in the December, 1988 EIR and Appendix F. These responses to comments provide support data for these reports.

1-3

The alternative issue is addressed in Attachments 1 and 2 and in the responses to comments 1-1, 12-1 and 2-4.

000015

The draft AQMP and EIR fail to evaluate or discuss any reasonable or potentially more cost-effective alternatives for meeting federal air quality mandates. At a minimum, the District should assess the costs and air quality benefits of EPA's preferred ozone nonattainment strategy for areas like the South Coast Basin. EPA recommends that ozone nonattainment areas implement a control strategy which concentrates on reducing ROG, rather than ROG and NOx. EPA recommends NOx reductions only after urban airshed modeling demonstrates ozone reduction benefits will occur.

To test EPA's policy guidance on an ROG oriented ozone strategy, we used the EPA-approved urban airshed computer model to evaluate ozone benefits resulting from ROG reductions in the basin. Our results show that by concentrating on ROG emission reductions, the District would obtain the following benefits:

1. Achieve the Federal ozone standard five to ten years earlier if Tier I and part of Tier II ROG measures are implemented as recommended in the AQMP;
2. Achieve the Federal ozone standards across the basin with levels in most populated areas substantially below the standard;
3. Reduce the known plan cost from \$2.9 billion a year to \$1.8 billion for a 38% savings;
4. Reduce the potential total \$10.8 billion cost of the plan by as much as two-thirds, for a \$6.7 billion a year savings.

These results are presented in Figures 1 and 2. Figure 1 compares our early-attainment/cost effective alternative to the staff's Tier I, II and III alternative peak ozone levels. Figure 2 is a simple bar chart of total estimated cost savings resulting from our early attainment alternative, using available average cost data in the draft AQMP.

Urban airshed model analysis found that ROG reductions always resulted in ozone reductions, while NOx reductions could result in either ozone increases or delays in attainment. More importantly, we were able to obtain lower ozone levels throughout the basin with far less ROG and NOx emission reductions than those called for in the draft AQMP.

The cost of meeting the ozone standard with primarily ROG reductions is lower because the District would only need to implement 65% of the Tier I and II measures to achieve the same or lower ozone levels as the District alternative. In addition, federal ozone standards can be achieved throughout the basin without relying on unknown technology contained in Tier III of the District plan.

1-4 This issue is further addressed in the response to comment 1-1, Attachment 1, and Attachment 2. Please refer also to the response to comment 2-4.

1-5 As noted in the response to comment 1-1, District evaluation of the SCE alternative concludes that while improvements in ambient air quality would occur from the SCE strategy and adverse impacts would be reduced, more of the ambient air quality standards cannot be met by the SCE strategy. The earlier compliance with ozone standards is not as dramatic as claimed. Further discussion of the ROG-NOx relationship can be found in Attachment 2. For comparative ozone numbers between alternatives refer to page 3 of Attachment 2.

1-6 Please refer to the response to comment 1-5 and Attachment 2.

1-7 As discussed in the response to comment 1-1, District evaluation of the SCE alternative concludes that this alternative does not meet all ambient air quality standards and the earlier reductions in ozone are not as dramatic as claimed. It is true that AQMP Tier I and Tier II controls also fail to meet the standards, yet with the anticipated Tier III reductions, the ambient air quality standards can be met. Attachment 1 notes the reduced socioeconomic impacts of the ROG primary alternative.

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Our modeling methodology and assumptions are explained in Attachment A. The District staff should verify our results and include a full discussion of the cost effective/early attainment alternative in both the draft AQMP and EIR. The District should include a full discussion of the air quality benefits, costs and early attainment aspects of each alternative considered, including our cost-effective/early attainment alternative.

LEAST COST ALTERNATIVES:

Once the District has verified the best mix of ROG and NOx reductions for achieving federal ozone standards, they should then evaluate in the draft AQMP and EIR other alternatives for further reducing ozone attainment costs. The District should examine alternatives which would implement measures based on time-of-day, location, and seasonality.

In addition, the District should evaluate the effectiveness of ROG reactivity on ozone formation. Since not all ROG emissions have the same potential to form ozone, focusing on certain ROG emission reductions are not effective in the reduction of ozone. Eliminating control on these non-productive ROG emissions would further reduce costs.

We have started evaluating least cost options. We would be willing to work with the District to evaluate different air quality alternatives for maximizing air quality health benefits for the least cost. The Board should direct staff to evaluate least cost alternatives and should not approve the final AQMP until these issues are resolved.

The District is required by recently passed state law (Senate Bill 151) to assure that carrying out of the plan, its programs, and adoption of rules and regulations are efficient and cost-effective. Adopting an alternative that maximizes air quality benefits for the least cost will help maintain current and future economic growth.

COST-EFFECTIVE NO2 AND PM10 ALTERNATIVE ATTAINMENT PLANS:

Based on our analysis, the draft AQMP calls for 80% more NOx reduction than is necessary to attain NO2 or PM10. The draft AQMP correctly recognizes that the NO2 standard will be met by 1994 without any new controls on NOx; but due to added NOx emissions resulting from growth, the annual average NO2 federal standard will not be met in 2010.

The NO2 standard can be met by implementing the cost-effective/early ozone attainment alternative since a 20% reduction in NOx is obtained by implementing that alternative. This 20% NOx

1-8 Your comment is noted. Please refer to response to comments 1-1 and 1-5 and Attachment 1.

1-9 Please refer to the response to comment 1-1 and 1-5 and to Attachment 1 which discuss the alternatives considered by the District.

From the 1984 Olympics experience, when special measures were successfully taken to control traffic flow and air emissions, the District understands the importance of having an integrated control strategy including time- and place-specific control measures. However, these types of measures are included in the AQMP only as contingency plan measures in the event that some of the technological breakthroughs expected in Tier I and Tier II are not realized. The feasibility and potential impacts on air quality of these types of measures will be further examined in the next few years. Most of the transportation management measures included in the AQMP are also time- and place-specific controls which were mainly responsible for the better air quality during the 1984 Olympics period.

The Los Angeles Area Chamber of Commerce indicated in its comments dated September 28, 1988 that the chamber is preparing a list of measures which should be studied to see if this approach would be feasible. The District has not received the list. The District is preparing to conduct a modeling and planning study with EPA funding to determine the feasibility of implementing a locally implemented control program. At the present time, the measures identified for consideration include:

Noontime work starts of summer days,

Noontime work starts in the coastal/central areas,

Disincentives for vehicles in business areas,

Emergency plan measures required for forecast Stage I episodes,

Shutdown of nonessential services during forecast Stage I episodes,

Our modeling methodology and assumptions are explained in Attachment A. The District staff should verify our results and include a full discussion of the cost effective/early attainment alternative in both the draft AQMP and EIR. The District should include a full discussion of the air quality benefits, costs and early attainment aspects of each alternative considered, including our cost-effective/early attainment alternative.

LEAST COST ALTERNATIVES:

Once the District has verified the best mix of ROG and NOx reductions for achieving federal ozone standards, they should then evaluate in the draft AQMP and EIR other alternatives for further reducing ozone attainment costs. The District should examine alternatives which would implement measures based on time-of-day, location, and seasonality.

In addition, the District should evaluate the effectiveness of ROG reactivity on ozone formation. Since not all ROG emissions have the same potential to form ozone, focusing on certain ROG emission reductions are not effective in the reduction of ozone. Eliminating control on these non-productive ROG emissions would further reduce costs.

We have started evaluating least cost options. We would be willing to work with the District to evaluate different air quality alternatives for maximizing air quality health benefits for the least cost. The Board should direct staff to evaluate least cost alternatives and should not approve the final AQMP until these issues are resolved.

The District is required by recently passed state law (Senate Bill 151) to assure that carrying out of the plan, its programs, and adoption of rules and regulations are efficient and cost-effective. Adopting an alternative that maximizes air quality benefits for the least cost will help maintain current and future economic growth.

COST-EFFECTIVE NO2 AND PM10 ALTERNATIVE ATTAINMENT PLANS:

Based on our analysis, the draft AQMP calls for 80% more NOx reduction than is necessary to attain NO2 or PM10. The draft AQMP correctly recognizes that the NO2 standard will be met by 1994 without any new controls on NOx; but due to added NOx emissions resulting from growth, the annual average NO2 federal standard will not be met in 2010.

The NO2 standard can be met by implementing the cost-effective/early ozone attainment alternative since a 20% reduction in NOx is obtained by implementing that alternative. This 20% NOx

Provision of free bus rides during summer, and

Banning organic solvent use on forecast Stage I episodes.

For additional information, please refer to the responses for comments 3-44 and 3-55.

1-10

The varying degrees of hydrocarbon reactivities are included in the chemical mechanism of the UAM. UAM results indicate that all the AQMP control measures are required for ozone attainment, so the ranking of control measures by cost-effectiveness is not necessary. Also, refer to Attachment 9 for additional modeling data.

1-11

Your offer of assistance and information is noted and will be forwarded to the District Board. The District has evaluated several different alternatives, as discussed in the response for comment 1-1.

1-12

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. As described in Chapter 5.5, Article 5, Section 40460 (a) of the Health and Safety Code, the purpose of the AQMP is to achieve and maintain federal and state ambient air quality standards. Based on its analysis, the District has concluded that only the proposed AQMP, with Tier III provisions, meets the criteria of attaining all federal ambient air quality standards. Thus, attempting to distinguish between alternatives based on cost-effectiveness is not meaningful because of the failure of all alternatives except the AQMP to meet the primary goal of the Plan -- achieving the federal air quality standards. For further discussion and comparison of the alternatives, please refer to Attachments 1 and 2.

1-13

Please refer to Appendix SCE 2 at the end of the responses to this letter's comments for information regarding NOx reductions. Also refer to Attachment 2.

1-14

Please see Attachment 2 for a critical evaluation of the alternative plans submitted by Southern California Edison and Western States Petroleum Association. In Attachment 2 it is shown that the SCE and WSPA plans will not bring the Basin into compliance with federal and state ambient air quality standards for all criteria contaminants.

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LEAST COST ALTERNATIVES:

In addition, the District should evaluate the effectiveness of ROG reactivity on ozone formation. Since not all ROG emissions have the same potential to form ozone, focusing on certain ROG emission reductions are not effective in the reduction of ozone. Eliminating control on these non-productive ROG emissions would further reduce costs.

The District is required by recently passed state law (Senate Bill 151) to assure that carrying out of the plan, its programs, and adoption of rules and regulations are efficient and cost-effective. Adopting an alternative that maximizes air quality benefits for the least cost will help maintain current and future economic growth.

Based on our analysis, the draft AQMP calls for 80% more NOx reduction than is necessary to attain NO2 or PM10. The draft AQMP correctly recognizes that the NO2 standard will be met by 1994 without any new controls on NOx; but due to added NOx emissions resulting from growth, the annual average NO2 federal standard will not be met in 2010.

WSPA plans will not bring the Basin into compliance with federal and state ambient air quality standards for all criteria contaminants.

An air quality trend statistical analysis was conducted to provide some indication of the effectiveness of the level of NO_x reductions proposed in the 1988 AQMP Revision and the effectiveness of the alternative plans submitted by SCE and WSPA. It was found that the NO_x emissions reductions proposed by SCE and WSPA (25 to 30 percent Basin-wide) would be sufficient to bring the western portion of the Basin, specifically the Los Angeles and Burbank areas, into compliance by the year 2010. However, the NO_x levels predicted for the eastern portion of the Basin, specifically the Pomona area, would continue to increase. In contrast, the 1988 AQMP Revision will offset the effects of population growth and ensure future compliance with applicable standards.

emission reduction allows the District to maintain the NO2 standard beyond 2010 for the least cost.

Both the 24-hour average and annual PM10 standards can be met by implementing a cost-effective PM10 attainment plan (see Attachment C). The basic elements of such a plan are: ranking of PM10 control measures according to the cost effectiveness; utilizing a representative "urban" design value by strictly following EPA guidelines for developing a PM10 attainment plan; reducing NOx emission reductions only by amount called for in the early ozone attainment alternative (20% reduction); and implementing sulfate control measures now in the draft AQMP.

This approach to PM10 attainment is less costly because it does not require implementation of NOx controls which are far more expensive. For example, cost-effective PM10 control measures include fugitive dust control (street sweeping and wind fences), reducing ROG levels in solvents, and additional paving of dirt roads and implementation of stricter dust control regulations at construction sites. Many of these measures are three to four times less expensive than available NOx controls.

To provide adequate information for public review, the District is required to fully assess these cost-effective NO2 and PM10 alternatives in the draft AQMP and EIR.

MAJOR CEQA OMISSIONS AND INADEQUACIES:

The draft EIR does not present sufficient information to the District Board or the public to determine the environmental and economic consequences to residents of the basin of the AQMP. The draft EIR has the following major shortcomings:

1. It does not fully or sufficiently describe the technical, economic or environmental characteristics of individual control measures. For example, the draft EIR provides cost information for only 25% of the emission reductions called for in the plan. Without complete cost data, it is impossible to compare potential impacts of different control measures or control strategy alternatives to meet air quality standards.
2. The draft EIR does not identify and evaluate the impacts of certain significant direct environmental effects. In Tier I, II, and III control measures there are resultant impacts to air quality, water quality, solid waste and other study areas such as land use and transportation which are not fully discussed in the draft EIR. See Attachment B for a full discussion of these effects on individual control measures.

1-15

Please refer to the response to Attachment 2 concerning the SCE alternative strategy for PM10 control and to the response to comment 3-45 regarding the meteorology for selecting the Basin control approach.

The use of ranking-scheme for PM10 control measures was deemed unnecessary for the following reason:

The District's goal is to formulate an integrated control strategy which will ensure that ambient air quality standards for ALL criteria pollutants be met by 2010 and which will achieve the maximum possible reduction in excess exposure to PM10 and ozone over the next ten years. The overall control strategy should be designed so that efforts to achieve the standard for one criteria pollutant would not cause deterioration of another. In order to achieve this objective, a three-step modeling approach was used (see AQMP, page 5-5) to determine the adequacy of different control scenarios to meet the Board's adopted attainment goals.

Because of the potential effect of NOx control on raising ozone levels in at least some areas of the Basin, the minimum reasonable level of NOx control was determined by the need to meet PM10 standards. It was determined that the Tier II level of control is necessary to just meet the federal PM10 standards. Since the inclusion of all control measures in Tier II is required in order to achieve PM10 standard, ranking by cost-effectiveness is not necessary.

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Cost estimates have been developed for the majority of Tier I control measures. Data for the remaining control measures were not available during the preparation of the AQMP, but will be assembled during the development of individual control measures into rules. Please refer also to the response for comment 2-12.

1-17

Your comment is noted. Please refer to the responses for comments 1-2, and 2-12.

- 1-18 3. The draft EIR fails to recognize and thus evaluate a broad range of secondary or indirect significant effects which would occur as a result of implementing the proposed AQMP (detailed comments provided in Attachment B). For example, the EIR implies that methanol fuel substitutions on a massive scale is both feasible and achievable without any supportive evidence. A shift to methanol anywhere close to that described in Tiers II or III, would require methanol major infrastructure investment and development. These indirect significant effects have not been adequately discussed in the draft EIR.
- 1-19 4. The draft EIR improperly compares a partial estimate of costs (65 cents per day per capita) with a benefit estimate that assumes ozone attainment (\$2 per day per capita).
- 1-20 5. Included in the draft, are some control measures that run at cross purpose to one another. For example, in Tier I expensive control measures are recommended for electric utilities. Implementation of these controls will make it more expensive and difficult to convert sources in the basin to electricity.
- 1-21 6. The draft EIR does not quantify the socioeconomic impacts of the plan or identify impacts on lower income groups.
- 1-22 7. As discussed above, the draft EIR does not evaluate reasonable alternatives to the District's preferred control alternative. The EIR does not provide a factual basis for this omission and is thus insufficient to meet the requirements of CEQA.
- 1-23 8. The draft EIR fails to fully evaluate and discuss the impacts of the plan and the ability of government to provide public services as required by CEQA. For example, about 75% of the emission reductions needed in the draft plan for attainment must be implemented by local governments and agencies other than the SCAQMD. The draft EIR must provide an analysis of costs and impacts to the public sector for providing required utilities, transportation facilities, and other vital public services.
- 1-24 9. The draft EIR does not adequately discuss the irretrievable commitments of resources which would result if the plan is implemented. These irreversible changes include use of significant amounts of non-renewable resources (land, money, manpower, and energy), increases in the cost of doing business in the basin, and basic

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Your comment is noted. Please refer to the responses to comments 2-27, 2-37, 2-33 and 2-13, paragraph 1, and to Attachment 6.

1-19

Just as the estimate of the AQMP's cost did not reflect all costs, the estimate of the AQMP's dollar benefit did not consider all of the pollution damage reductions. The benefit estimate included only reduction in air pollution damages to health, materials, forests, and agriculture. The damages were based on noncompliance with federal standards for two pollutants only: ozone and particulates. Indirect health costs, such as pain and discomfort, were not considered in calculating the benefit estimate. These could amount to 20 percent to 50 percent of the total health damage. Agricultural damage assessment included damage only to dry beans, cotton, potatoes, and grapes. Please refer to the response to comment 2-36 and to Appendix F.

1-20

Your comment is valid in noting that some control measures appear to run at cross-purposes to one another and may make it more difficult to implement other measures. Such difficulties are the product of the complexity of reducing emissions to sufficient levels to meet air quality standards in this Basin. However, even with these difficulties, the emissions can be reduced with a sufficient amount of funding and resources. Development of detailed resources required for individual control measures will be undertaken at the time of rule development. Please refer to the response to comment 2-19 and to Attachment 5 for additional information.

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Please refer to Appendix F and Section 14-18 of the December, 1988 EIR.

1-22

The SCE alternative has been evaluated. Please refer to the response to comment 1-1 and to Attachments 1 and 2.

1-23

Your comment is noted. Please refer to Appendix F, which discusses fiscal impacts on local governments. Also, please refer to the responses to comments 2-10, 2-20, and 2-30.

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- Please refer to Chapter 7 of the December, 1988 EIR which summarizes the irreversible/irretrievable impacts and commitments of resources. In essence, all commitments of energy, construction materials, and conversion of land from natural to man-made environments can be considered irreversible. Money, manpower, and other human resources are mutable or reviewable and are, therefore, not irretrievable. At this stage of the review these impacts cannot be quantified. More specific evaluation of intrieable response commitments will be provided when the District implements control measures in the future.

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disfunction between the basin's operations and the rest of the country and world.

COMMENTS ON ELECTRIFICATION STRATEGIES IN THE DRAFT AQMP:

The bulk of the electrification programs proposed by the District are in the area of electric vehicles. Edison fully supports efforts to commercialize the electric vehicles and is working with the District staff to develop new electric vehicle technology. In addition, other commercial, industrial and residential electrification programs offer substantial air quality benefits to the basin. Our comments on electrification are:

1. The 20 year goal for electrification presented in the plan poses a number of questions regarding needed development of the electric system. The AQMP only begins to consider the implications of providing an adequate electric system under the proposed levels of electric load growth, and only in a traditional planning environment. Should even a small percentage of proposed electric load growth materialize, tomorrow's utility environment will be dramatically different from today's environment of 2% steady load growth.

Cooperation between the SCAQMD, CPUC, CEC, and various other concerned agencies and basin electric utilities will be essential in successfully achieving an electrification program, as outlined in the AQMP.

2. The AQMP should provide a view of the planning, construction, and regulatory requirements for a successful electrification program. The AQMP should also provide more detail about supply options. For example, energy required from out-of-basin suppliers may not be available, or perhaps cannot be built due to pollution concerns in other areas.
3. Since electric vehicles comprise the major portion of the electrification program, there are opportunities to tailor system expansion to best fit the needs of electric vehicles. The requirements of these vehicles may not necessarily require a "traditional" building program. The levels of service and reliability on today's electric system, designed to serve many types of customers at all hours of the day, may exceed the requirements for electric vehicle battery charging.

For example, distribution facilities can be developed to strike a balance between convenience and efficiency for charging electric vehicles. This may mean more centralized facilities than a "charger in every house", perhaps development of a DC system, perhaps development

1-25

The AQMP discusses total electrification of the Basin as only one option by which to achieve the necessary emissions reduction targets. The Plan does not exclude the implementation of other low-emitting technologies, if available, providing they are able to achieve emissions reductions equivalent to those of electrification. The values presented in Attachment 5 are at this time considered a best estimate and provide a substantially different picture than the Draft EIR. The SCAQMD realizes that energy demand and supply forecast is a complicated issue. Therefore, the analysis to date is by no means final, but rather the beginning of a long term planning process. The District realizes the need for cooperation with CPUC, CEC, and other agencies, as well as the electric utilities in the Basin in order to successfully achieve an electrification program. Please refer to the response for comment 2-9.

1-26

At present, 80 percent of the power used in the South Coast Air Basin is supplied from out-of-Basin sources. Attachment 5 shows the suggested supply options and estimated potential contribution of in-Basin and out-of-Basin power supplies which may be available. The out-of-Basin sources are expected to be available to meet the 2010 demand due to projected population growth. No new construction of out-of-Basin plants is expected solely for the purpose of electrification. The need for construction of new facilities in the basin could be limited to solar power sources. Regardless of the type of energy source chosen, construction of new power plants must comply with all applicable environmental regulations.

disfunction between the basin's operations and the rest of the country and world.

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Cooperation between the SCAQMD, CPUC, CEC, and various other concerned agencies and basin electric utilities will be essential in successfully achieving an electrification program, as outlined in the AQMP.

2. The AQMP should provide a view of the planning, construction, and regulatory requirements for a successful electrification program. The AQMP should also provide more detail about supply options. For example, energy required from out-of-basin suppliers may not be available, or perhaps cannot be built due to pollution concerns in other areas.
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For example, distribution facilities can be developed to strike a balance between convenience and efficiency for charging electric vehicles. This may mean more centralized facilities than a "charger in every house", perhaps development of a DC system, perhaps development

Please refer to Attachment 5. Based on this scenario, it is projected that no new coal-fired or nuclear plants will be required to be constructed outside of the Basin to import power. The District has no authority to site power plants, if needed, but California and other states have well-established siting procedures; the District will work with the California Energy Commission and other siting agencies to assure compliance with the proper siting criteria and all environmental regulations.

Your comment is noted. The District recognizes that alternative systems may be required for electric vehicle charging. Please refer to the December, 1988 EIR, pages 4-7-7 to 4-7-8 and pages 4-15-6 to 4-15-7.

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of "consumable" types of batteries created through advances in electro-technologies.

4. The draft AQMP and EIR understates emission reductions likely to occur with the introduction of electric vehicles. Studies conducted by CARB indicate electric vehicles are 98% less polluting than gasoline powered vehicles. Tier II electric vehicle control measure estimates a 10.5 ton/day reduction in ROG emissions and a 23.9 ton/day reduction in NOx emissions given a 20% penetration of electric vehicles in the basin. The CARB study suggests these ROG and NOx emissions reductions could be achieved with only a 2% to 5% penetration of electric vehicles.

The Board should direct staff to provide a detailed description of how electric vehicle emissions were calculated in the plan. Edison would be willing to work with the District to develop these estimates.

5. To achieve stated electric vehicles, Tier I, II, and III goals the Board should continue to adopt regulations and incentives for electric vehicles. For example, we recommend the Board direct staff to incorporate into clean fuel vehicle regulations, such as Rule 1601, emission credits for electric vehicles because they have far lower emissions than other clean fuel vehicles. The Board should also direct staff to increase clean fuel funding for electric vehicle and battery related projects.

6. The AQMP does not address the difficulties involved with planning, financing, permitting and constructing the new resources called for in Tier III. Planning, construction and regulatory approvals can take up to 10 years for generation projects, up to 5 years for transmission projects and up to 2 years for large distribution projects.

7. The AQMP should describe expected development of the electric supply system in terms of known technologies, developing technologies and new technologies. Known and developing electro-technologies should be supplied by traditional cost effective electric system development and operation. New technologies (mainly electric vehicles) could be supplied in part with a new type of electric service, which would include not only conventional electric supply but also yet to be developed alternative supply technologies.

8. The conservation and load management in Strategic

1-28

The assumptions used in developing the background for the District's electrification strategy are presented in Appendix IV-B - Tier III Control Strategy: Energy Future. In order for District staff to fully respond to this comment, SCE needs to specify which CARB report is referenced. When provided, the District can proceed to evaluate the basis for differences. Note that the tailpipe emissions controls proposed in Tier I of the AQMP are projected to control motor vehicle emissions with an efficiency near 40 percent for NOx and 75 percent for ROG. The remaining motor vehicle emissions are credited for reduction in Tiers I and III through the proposed electric vehicle measures. Thus, reduction credits are not double-counted, but are separated and applied to Tiers II and III.

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Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

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The District recognizes the difficulties involved in relying upon coordination with other organizations to identify specific electricity requirements and to initiate the siting activities required fulfil, to the District's power demand in a timely manner. The specific efforts to overcome the difficulties identified in your comments will be during rule-making processes; by regulations will be coordinated with power generation industry. Please refer to the responses for comments 2-10, 2-20, and 2-30.

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Please refer to Attachment 5 which describes the AQMP electrification strategy and presents a matrix of electricity demand and supply.

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Your comment is noted. Please refer to Attachment 5 which describes the District's proposed electrification strategy. Shortfalls in specific control measures will have to be compensated for by implementing contingency measures.

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Plan 1 (Appendix IV - B, Tier III Control Strategy: Energy Future) appears to be achievable. The conservation and load management assumed in Strategic Plan 2 appears to be overestimated by as much as one-third. Part of the shortfall comes from the AQMP not realizing that the only residential energy use that contributes significantly to summer peak electrical loads is air conditioning. Other residential appliances, such as water heaters, cooking equipment, and space heating are not in use during those times. Strategic Plan 3 requires more information before it can be evaluated.

Some additional commercial load management could be achieved through higher saturation of high-efficiency lighting systems and load controllers, but not to the levels assumed in Strategic Plan 2.

9. It should be recognized that by far the largest proportion (more than 75%) of the achievable load management in Strategic Plan 2 is not cost effective from an electric ratepayer's perspective.

CONCLUSION:

Edison believes there are cost-effective alternatives to the staff proposed alternative in the AQMP. We have presented computer model results which show that an alternative based on ROG emission reductions will achieve the federal ozone standard across the basin five to ten years earlier and cost almost two-thirds less than the alternative in the draft AQMP. CEQA requires that this early attainment alternative and other reasonable alternatives be thoroughly evaluated and presented in the draft EIR for public review and comment before adoption of the final EIR can occur.

Sincerely,



NADER N. MANSOUR
Manager of Environmental Regulation

ATTACHMENTS

cc: Suzanne Reed, SCAQMD (5 copies, w/attachments)
SCAQMD Board Members (w/attachments)

1-33

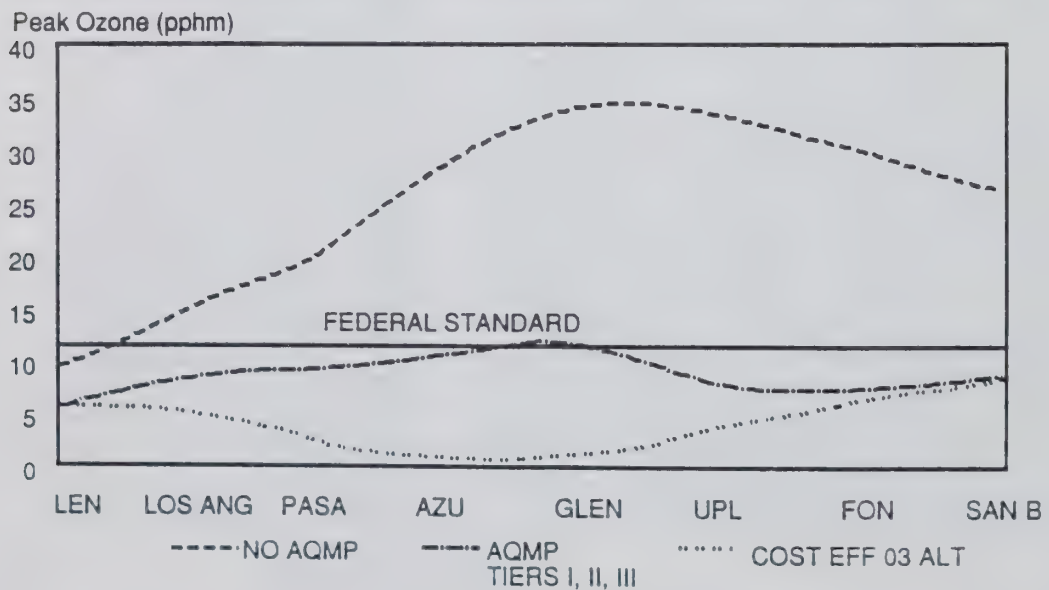
Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. In order to respond further to your comment, District staff requests that your underlying data and assumptions be provided.

1-34

Please refer to the response to comment 1-1 and to the references cited.

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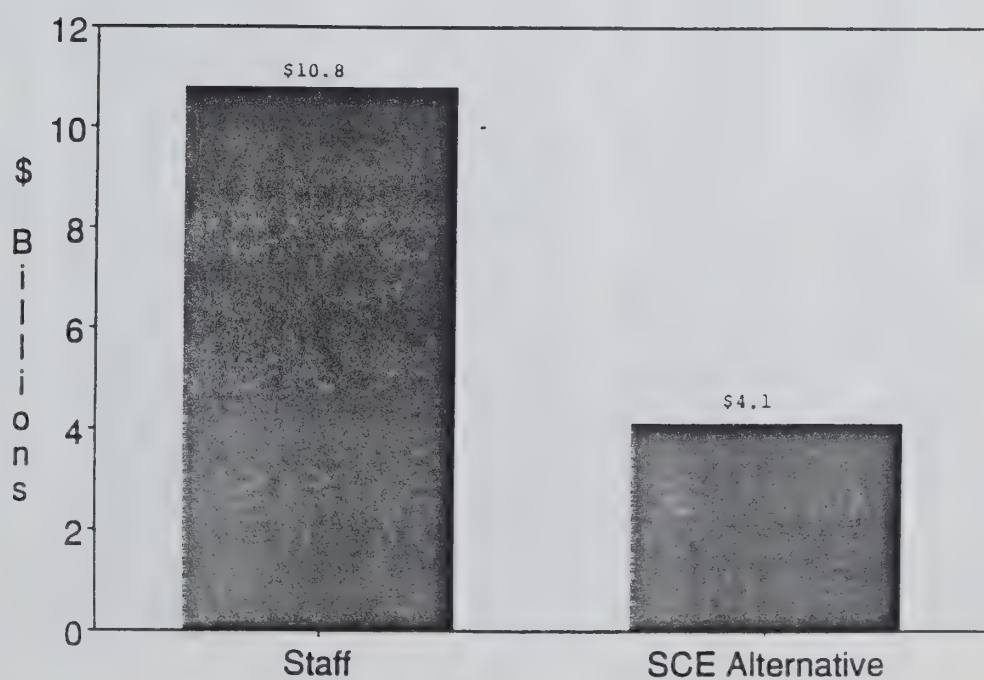
FIGURE 1

PEAK OZONE LEVELS IN THE YEAR 2010 AT
SELECTED LOCATIONS ACROSS THE BASIN

AQMP TIERS I & II CONTROLS

FIGURE 2

Full Annual Cost Estimate:
Draft Plan vs. SCE Alternative



ATTACHMENT A

EARLY OZONE ATTAINMENT/COST-EFFECTIVE STRATEGY FOR ATTAINING THE FEDERAL OZONE STANDARD IN THE SOUTH COAST AIR BASIN

Summary

The Urban Airshed Model was used to examine the cost effectiveness of alternative reactive organic gas (ROG) and oxides of nitrogen (NO_x) emission control strategies for reducing SOCAB ozone levels. Two different types of applications were done: 1) an across-the-board uniform emission reduction sensitivity study; and 2) an analysis of individual control measures taking into account type, location, height, and chemical composition of the sources affected by the individual control measures.

The results from these analyses indicate that the ozone standard can be met with substantially less emission controls than called for in the AQMP by relying on ROG-oriented Tiers I and II control strategy. No reliance is placed on control technologies yet to be developed as part of the AQMP Tier III controls.

In addition, achievement of the ozone standard can be attained at substantially lower costs and at a faster rate than the AQMP strategy.

Background

The Urban Airshed Model (UAM) has been used to examine alternative cost-effective ROG and NO_x emission control strategies for reducing SOCAB ozone levels. The basis for this study is the scientific analysis contained in the SCAQMD's Draft Air Quality Maintenance Plan (SCAQMD, 1988). The AQMP describes the UAM, the ozone episode used for the strategy evaluation, the associated emission inventories, and the emission control measures potentially available for implementation by the year 2007. The UAM was applied in the present analysis in a number of different ways to determine the degree to which ROG and NO_x emission controls are effective in reducing ozone in the SOCAB and the resulting costs of alternative control strategies.

Across-the-Board ROG/NO_x Emission Control Assessment

The first application assessed the effects of broad across-the-board ROG and/or NO_x emission reductions on basin ozone levels. A total of 21 emission control combinations were examined. Emission controls were modeled as uniform percentage reductions applied to all emission sources across the basin. The purpose of this application was to determine the sensitivity

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ozone to differing levels of ROG and/or NO_x emission reductions and provide an overall plan for the next phase of the UAM application.

Using the future year 2010 emission inventory as published in the AQMP as the base inventory, discrete ROG and NO_x emission reductions ranged from 0 to 100 percent of the baseline inventory. For each emission control combination, the resulting peak basin ozone level was determined and plotted as a point in Figure 1. Lines were then drawn connecting points of equal ozone concentrations. With the information shown in Figure 1, it is possible to determine the manner in which peak ozone levels will respond to broad changes in ROG and NO_x emissions. The information shown in Figure 1 can be summarized as follows:

1. The federal ozone standard can be achieved in this basin with a ROG-only strategy resulting from a 70 percent reduction in ROG emissions and no NO_x emission reduction.
2. As NO_x controls are applied, the amount of ROG controls needed to meet the ozone standard increases; for example reducing NO_x levels by 20 percent increases the ROG emission control requirement to 80 percent to meet the ozone standard.
3. NO_x emissions would have to be reduced by over 90 percent in order to meet the ozone standard.
4. Reductions in NO_x can lead to increases in ozone while reductions in ROG will always lead to ozone reductions.

Control Measure-Specific ROG/NO_x Emission Reduction Assessment

The conclusions described above evaluated the case of uniform emission reductions. As such, these emission reductions do not consider the various aspects of specific emission controls such as source location, type, height of release, chemical specification, and coincident reductions of both ROG and NO_x for an individual measure.

Contained in the SCAQMD AQMP are over 100 specific emission control measures which the AQMP has targeted for adoption to attain the federal ozone standard. In the next phase of the UAM application, the effect of these emission control measures on basin ozone levels was quantified using the results from the uniform emission reduction analysis as a guide.

From the earlier uniform emission reduction application, it was shown that a ROG-oriented control strategy was most effective in reducing basin ozone levels. For purposes of this analysis, all of the control measures contained in the AQMP and designated as

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Tiers I and II were sorted according to level of ROG and NO_x emission reduction to be achieved by each measure. Using the list of control measures, all of the ROG-only measures were first identified followed by those measures which resulted in simultaneous ROG and NO_x emissions, and finally the controls involving only NO_x emissions. Examples of the types of controls in each control measure breakdown are shown in Figure 2.

Four UAM model simulations were performed to examine the effects of the various ROG/NO_x emission reductions. One run was made considering only those control measures affecting ROG reductions. Two additional runs were made for various combinations of ROG/NO_x control measures. Finally, the complete Tier I and II package, which includes all ROG and NO_x controls combined, was analyzed.

Table I provides the levels of emission reductions for each case. Also shown for comparison purposes are emissions for the "No AQMP" control base case and the reductions which the AQMP says are necessary to meet the ozone standard (indicated therein as Tiers I, II, III). As shown in this table, ROG reductions range from 48 to 84 percent while NO_x reductions range from 0 to 82 percent.

Table I also shows the resulting peak basin ozone levels for each scenario. This table indicates the following:

1. The federal ozone standard can be met with substantially less emission reductions than the Tiers I, II, III levels identified in the AQMP by relying on Tiers I and II ROG-oriented control strategy. In fact, it is not even necessary to venture into the technologically unknown Tier III control requirements.
2. A ROG reduction of 64 percent accompanied by a NO_x reduction of 20 percent will nearly attain the standard, much as the AQMP Tiers I, II, III strategy which calls for over 80 percent for both ROG and NO_x.
3. Considering the two ROG/NO_x scenarios and the full Tier I, II case, all involving similar ROG reductions, ozone levels increase as the level of NO_x controls increases.

Figure 3 provides a geographical display of peak ozone levels as a function of emission control strategy discussed above. As shown therein, the 64 percent ROG/20 percent NO_x strategy (identified as the Cost Eff O₃ Alt in Figure 3) results in substantially lower peak ozone levels everywhere in the Lennox to Redlands population center than the AQMP strategy. These results further indicate the undesirability of NO_x controls for ozone reduction. The allowance of a 20 percent NO_x control will also lead to reductions in NO₂ and PM₁₀ levels necessary to attain the standards for those pollutants.

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Cost Effectiveness of Alternative AQMP Control Strategies

The AQMP provides an estimate of costs which are likely to be incurred in order to attain the federal air quality standards. The estimated AQMP cost is \$2.9 billion/year. Unfortunately, this cost represents only 25 percent of the control measures identified in the AQMP. Thus, costs associated with 75 percent of the control measures are not accounted for. (Figure 4 provides a picture of what the plan might cost if all control measure costs were identified.) Using the known control measure costs, an average cost of \$7,000 per ton per day of ROG and \$24,500 per ton per day for NO_x was used to assign costs to the remaining uncoded control measures. When all costs are calculated, the proposed AQMP could cost over \$10.8 billion per year, over 3 times the AQMP estimate.

Figure 5 compares the estimated costs from the AQMP with the costs from the 64 percent ROG/20 percent NO_x control strategy discussed earlier. This ROG-oriented strategy will reduce known costs by almost one-third (\$0.9 billion) and estimated full costs by almost two-thirds, a \$6.7 billion per year savings. Since the ROG-oriented strategy does not rely on the implementation of unknown technology (Tier III) and since it minimizes the need for counter-productive NO_x controls in Tiers I and II, the ozone standard can be met sooner and cost billions of dollars less.

FIGURE 1.

PEAK BASIN OZONE AS A FUNCTION
OF BASIN ROG AND NO_x EMISSIONS
2010

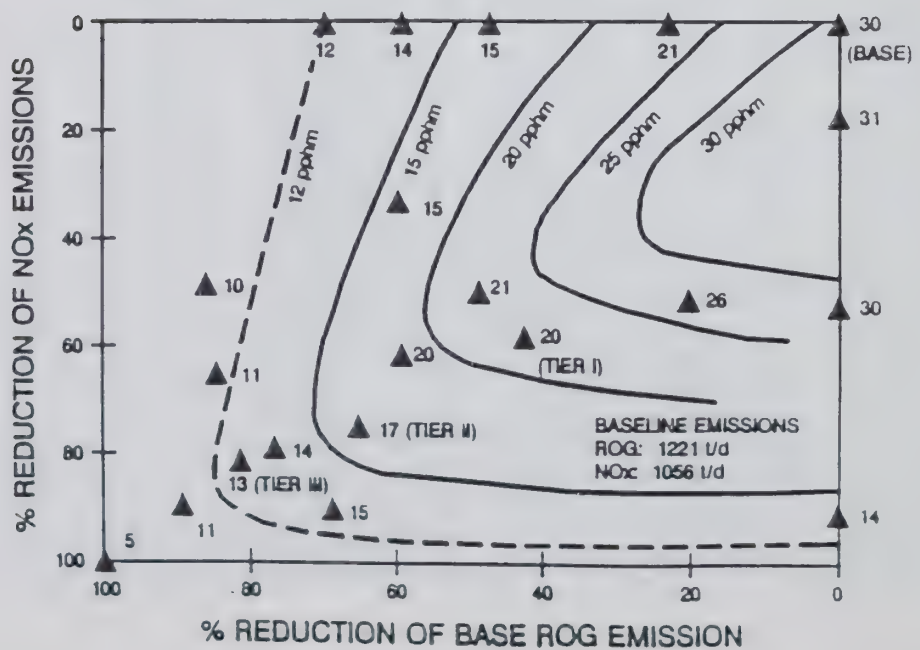


FIGURE 2.
ANALYSIS OF TIERS I AND II MEASURE-SPECIFIC
CONTROL SCENARIOS - 2010

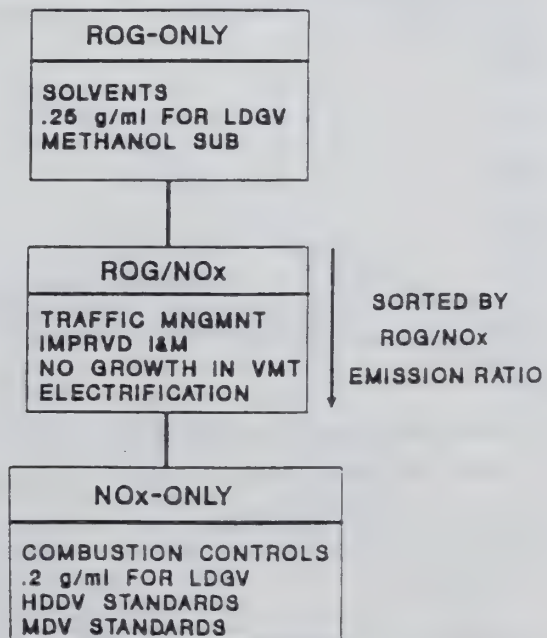


FIGURE 3.
PEAK OZONE AT SOCAB LOCATIONS FOR
MEASURE-SPECIFIC CONTROL SCENARIOS

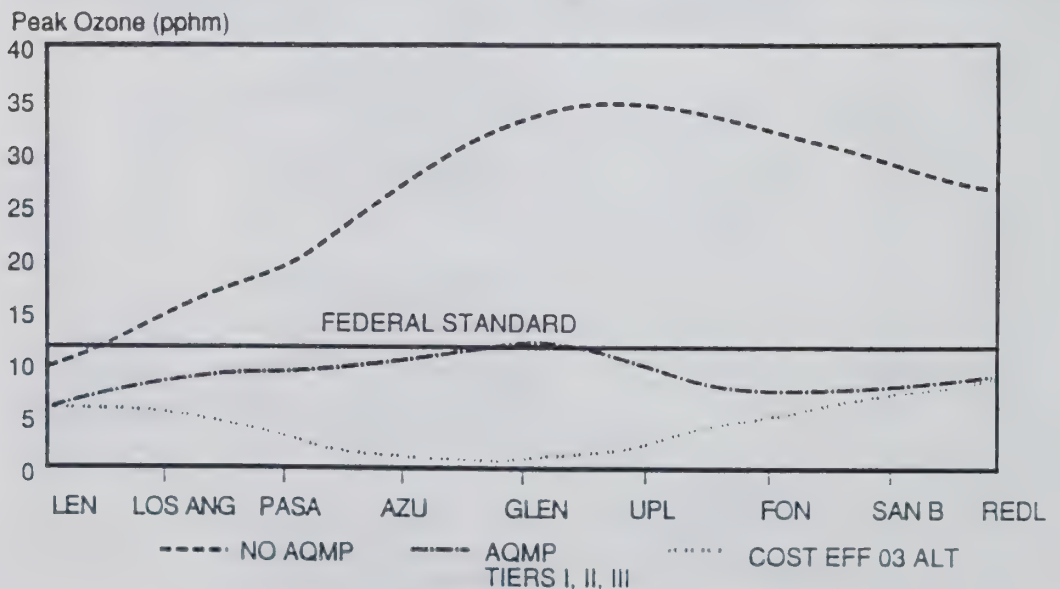


FIGURE 4.
District's AQMP Alternative:
Partial and Full Annual Cost (Tiers I, II, & III)

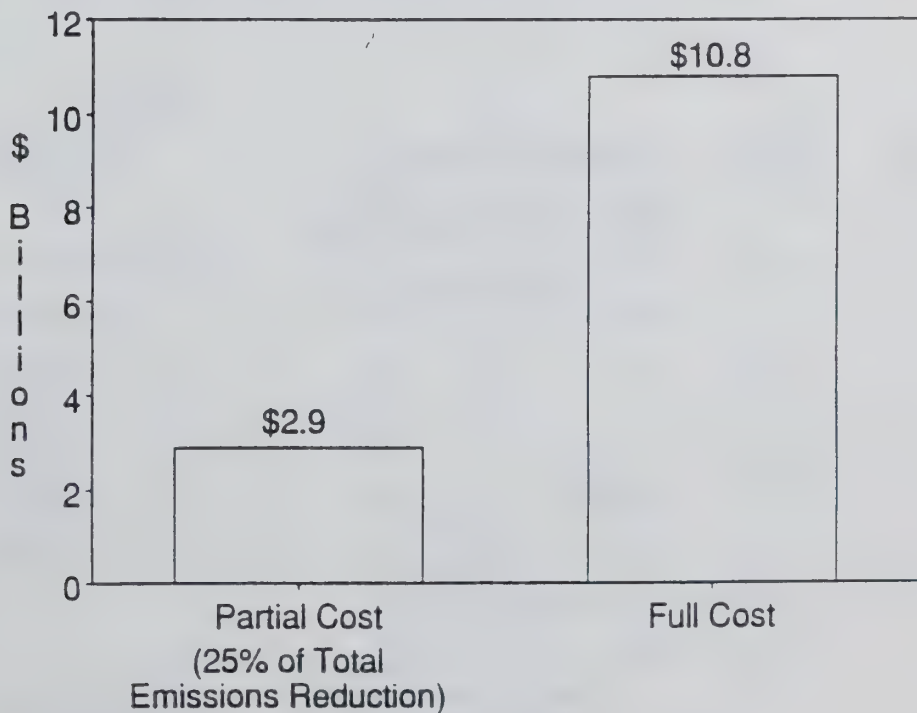


FIGURE 5.
Annual Cost: District Plan and Cost-Effective
Early Attainment Ozone Alternative

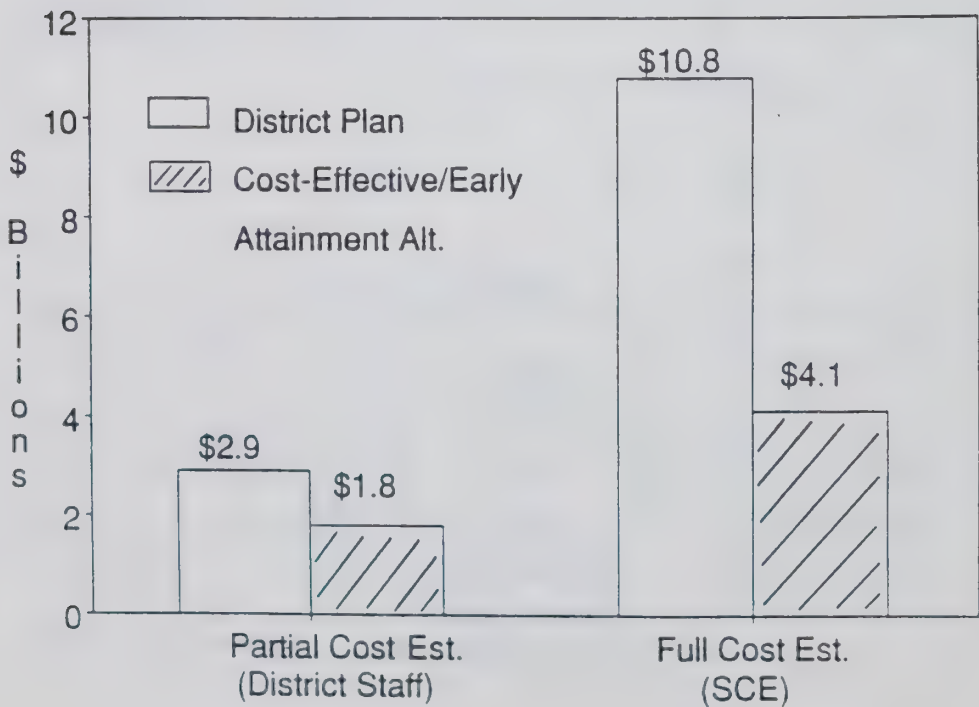


TABLE I.
ANALYSIS OF TIERS I & II MEASURE-SPECIFIC
CONTROL SCENARIOS

SCENARIO	ROG (t/d)	Δ FROM BASE (%)	NOx (t/d)	Δ FROM BASE (%)	PEAK OZONE (pphm)
NO AQMP-BASE	1297	---	1130	---	30
ROG-ONLY	676	-48	1123	0	18
ROG/NOx #1	465	-64	900	-20	13
ROG/NOx #2	410	-68	519	-54	15
TIERS I,II	423	-67	335	-70	17
TIERS I,II,III	212	-84	209	-82	13
				FEDERAL STANDARD	12

ATTACHMENT B

REVIEW OF
DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR)
1988 REVISION TO THE
SOUTH COAST AIR QUALITY DISTRICT
AIR QUALITY MANAGEMENT PLAN

PREPARED FOR THE SOUTH COAST
AIR QUALITY MANAGEMENT DISTRICT

SUBMITTED BY SOUTHERN CALIFORNIA EDISON CO.

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The Air Quality Management Plan 1988 Revision (AQMP) is offered by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) as a plan to bring the Los Angeles basin into attainment with the Federal ambient air quality standards. While a Federal mandate (the Clean Air Act) requires compliance with ambient air quality standards through emissions reductions, the SCAQMD, as a California lead agency, is not relieved in any way from full compliance with requirements of the California Environmental Quality Act (CEQA). As a state lead agency taking a "discretionary" action, the SCAQMD is obligated, under CEQA guidelines Section 15382(i), to prepare an Environmental Impact Report (EIR) to fully inform the SCAQMD Governing Board concerning the full range of environmental impacts if the proposed revisions to the AQMP are adopted.

The combination of control measures proposed for implementation in the AQMP Revision will fundamentally change life in the Los Angeles region and directly affect the lives of more than 12 million people. To achieve the federally mandated air quality standards, some significant changes are necessary and unavoidable. The task of the DEIR is therefore far reaching in scope and proportion. It must fully and adequately inform the Governing Board of the technologies that can feasibly be implemented to achieve the necessary emissions reductions and in equal detail define the environmental consequences and economic burdens of implementing such control technologies. The current Draft EIR does not adequately provide such information.

While it is recognized that the air quality problems of the Los Angeles basin are significant, the achievement of emissions reductions for the sake of the reduction itself does not, under CEQA, justify the implementation of control measures without defining and understanding their associated impacts. Similarly, use of future control technologies which are speculative does not relieve the DEIR's authors from exercising all reasonable means for defining and quantifying the impacts of such technologies. Unfortunately, the DEIR includes emissions reductions from future undeveloped technologies in achieving the standards, but does not enumerate their impacts.

1-35

Your comment is noted and will be forwarded to The District Board for consideration in making its decision on the AQMP. Please refer to the responses to comments 2-5, 2-15 and 2-27 and to Attachments 1 and 2.

1-36

Your comment is noted. The purpose of the AQMP is to provide a guideline for achieving ambient air quality standards which have been set by the federal and state governments to protect public health. Please refer to the response for comment 2-5. CEQA Guidelines, Sections 15146, 15152, and 15166 provide for general review of the type contained in the AQMP EIR.

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1-36

The following comments document major inadequacies of the Draft EIR which will require significant revision before an adequate and sufficient basis is established for a determination regarding the approval of the Revision to the AQMP

1.0 INADEQUATE PROJECT DESCRIPTION

Section 15124(c) of the CEQA guidelines requires that a description of the project must be included in the DEIR that describes the technical, economic and environmental characteristics of the proposed project. The technical project in the case of the AQMP is composed of the individual control measures which have been grouped into three tiers. The specific control measures are described in Appendix IV-A and IV-B of the AQMP (including supplements). However, these documents do not fully or sufficiently describe the technical, economic or environmental characteristics of the individual control measures. What is given is a District biased description of each control measure that emphasizes the emissions reductions to be achieved, but includes little specific data concerning the economic and environmental characteristics and subsequent impacts of each individual control measure.¹

1.1 Insufficient Technical Description of Control Measures

In many cases control measures are stated in terms of the emissions reductions that are expected to occur but do not describe the specific technology to be used. In other cases, several alternative control methods are described but no analysis of the likely use of each alternative is made. Thus there is no direct linkage between the use of specific control technologies and the emission reductions that are assumed to occur. Without this linkage, for each control technology, the amount of emissions reductions must be considered speculative, rendering conclusions about environmental benefits from the AQMP unreliable and speculative.

¹ It is this commenter's intent that these comments should be construed to apply to the description of each individual control measure as defined in Appendix IV of the AQMP.

1-37

At this stage of review, the AQMP control measures represent general components of an integrated plan at this stage of review designed to meet the overall goal of attainment of air quality standards. Details of specific measures cannot be developed at this stage because the content and means of implementing each measure must be developed in a public forum after a plan is adopted by the Board. The descriptions of control measures contained in the appendices is considered appropriate for adopting a plan. The detailed impacts of individual control measures will be addressed during the rule-making process. Implementation of the strategy identified in the Plan will only occur after a regulation is adopted pursuant to rule-making authority granted the District or ordinances enacted by local governments. The EIR for the AQMP is intended to serve as a base document within the tiered system.

Please refer also to the response for comment 1-16.

1-38

Please refer to the response for comment 3-45. This level of detail is consistent with the AQMP's function as a guideline plan that establishes goals to be met through a very large number of control measures. Please refer to the response for comment 2-30 for additional information.

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1-39

Also, the numerical basis for some of the baseline emissions and associated emission reductions for the control measures are not adequately documented.

1.2 Insufficient Economic Description of Control Measures

1-40

Many control measures have been described in terms of the cost per ton for emissions reductions. Approximately 45% of the control measures do not include any cost data. Because no analysis of the probable use of specific control technology alternatives was undertaken, the cost of controls cannot be accurately estimated despite the inclusion of control technology costs in the Appendix IV descriptions of specific control technology. Without complete estimates of control technology costs, analysis of the costs versus benefits of the plan cannot be made.

1.3 Insufficient Environmental Description of Control Measures

1-41

The description of the some of the control measures note that they will create environmental impacts. To provide for an adequate environmental impact analysis, the DEIR must include an analysis that quantifies the specific environmental changes that implementation of each specific control measure will cause. It is critical that the creation of new or additional waste streams must be quantified (especially those that are noted in the AQMP, Appendix IV to be hazardous and toxic). Also, potential displacement of business operations, increased transportation, use of substituted unregulated materials (especially solvents) and other environmental effects of each control measure should be fully described.

2.0 UNIDENTIFIED AND/OR UNQUANTIFIED SIGNIFICANT ENVIRONMENTAL IMPACTS OF THE PROJECT

1-42

Section 15126 of the CEQA Guidelines requires that "[an] EIR shall identify and focus on the significant environmental effects of the proposed project." The DEIR fails to: (1) identify certain significant environmental effects and (2) to 'focus' or quantify the impacts of those environmental effects that are identified. This failure is especially critical where potential significant environmental effects have been identified; without identification or quantification, the degree to which mitigation measures can successfully reduce impacts to a level of insignificance cannot be determined. If significant

1-39

Estimated emissions reductions associated with the AQMP proposed control measures are presented with each measure in the following Appendices:

Appendix IV-A: Tier I and Tier II Control Measures.

Appendix IV-F: California's Post-1987 Motor vehicle Plan for Continued Progress Toward Attainment of the National Ambient Air Quality Standards for Ozone and Carbon Monoxide Update.

Draft Appendix IV-G: Transportation, Land Use and Energy Conservation Measures.

Please refer to the response for comment 2-11.

1-40

Please refer to the response for comment 1-16. The data in Appendix F provides the best economic information available to the District from implementing the Plan. The data limitations in this report are acknowledged.

1-41

The Executive Summary to this Addendum describes the level of detail necessary for an EIR to this Plan. Please refer also to the responses for comments 2-5 and 2-12.

1-42

Please refer to Section 6 of the December, 1988 EIR (Table 6-1) to and the Executive Summary for conclusions regarding significance of impacts. Regarding the need to quantify impacts, refer to the response for comment 1-41. CEQA Guidelines require a good faith effort at disclosure (Section 1515) and do not require quantification where such quantification is not possible. Refer to the responses for comments 2-9 and 2-13 for example.

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impacts cannot be mitigated with certainty, they must be assumed to remain as significant, requiring the SCAQMD's Government Board to make findings of overriding consideration to approve the AQMP Revisions (CEQA Guidelines 15091(a)). Such findings of overriding consideration must be explicitly made by the Board and must "balance the benefits of a proposed project against its unavoidable environmental risks (CEQA Guidelines Section 15093(a))." The Guidelines also require that the findings "shall be supported by substantial evidence in the record" (CEQA Guidelines (15091(b))). Clearly, to make such a balancing determination, the benefits and risks must both be analyzed to a relatively equal level of detail. In the DEIR the benefits have been quantified; the environmental risks have not, leaving the Governing Board without sufficient basis for making findings of overriding consideration based on a balance of risks and benefits.

For each of the Tier I, Tier II, and Tier III control measures, there are resultant impacts to air quality, water quality, solid waste, and other study areas (transportation, land use economics, etc.) which are not fully addressed in the DEIR.

Tier I Control Measures

- * Use of carbon adsorption technologies may produce by-product wastes that include hazardous and toxic materials. The type and quantity of these materials have not been completely identified or quantified. To the extent such materials are created, existing methods and means for disposal of such materials must be discussed to determine if the capacity for disposal of such materials exists and if the generation of new or increased hazardous materials waste streams is consistent with the region's Hazardous Waste Management Plan.
- * Toxic hydrogen sulfide and mercaptans may increase (DEIR, 4-1-18). The suggestion that Control Measure B-12 "should help" does not sufficiently quantify or address the emissions of a toxic air contaminant which therefore must be considered as a significant impact.

1-43

Carbon adsorption is a control technology applicable to most organic-emitting industries, although the actual applicability will vary depending on the industry and type of organics (solvents) used. Carbon adsorption uses a physical phenomena (the weak attractive forces known as van der Waals forces) to separate organic vapors from a gas stream and concentrate these vapors to a more manageable form.

In addition to physical factors such as temperature and/or humidity, the most important characteristic that determines what substances are most effectively adsorbed to carbon is the type of molecular bond. Strongly ionized materials, with the exception of hydrogen ions, are poorly adsorbed. With some exceptions, covalently bonded compounds, e.g., organic (carbon containing) substances, are favored in the adsorption process. Branched-chain compounds and molecules that are low in polarity and solubility tend to be favored for adsorption. Large organic molecules tend to be adsorbed more readily than small molecules, because small organic molecules tend to be more volatile.

The degree of specificity regarding the generation of toxic materials from carbon adsorption as requested by the commentor is not required in a program EIR such as the AQMP EIR (see the Executive summary). Determining the potential for increased generation of hazardous wastes that may result from implementing the AQMP is difficult because it is not known how many new and existing facilities will choose to use carbon adsorption as a control technology. For example,

there are a number of alternative control technologies, thermal incineration, for example, that could be used to control toxic air contaminants. Thermal incineration has the advantage that organic materials adsorbed to the carbon can be oxidized to carbon dioxide, water, and in some cases harmless combustion products (Taback et al., 1983). In addition, incineration significantly reduces the volume of carbon to be disposed of, thus attenuating solid waste impacts.

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1-42

impacts cannot be mitigated with certainty, they must be assumed to remain as significant, requiring the SCAQMD's Government Board to make findings of overriding consideration to approve the AQMP Revisions (CEQA Guidelines 15091(a)). Such findings of overriding consideration must be explicitly made by the Board and must "balance the benefits of a proposed project against its unavoidable environmental risks (CEQA Guidelines Section 15093(a))." The Guidelines also require that the findings "shall be supported by substantial evidence in the record" (CEQA Guidelines (15091(b)). Clearly, to make such a balancing determination, the benefits and risks must both be analyzed to a relatively equal level of detail. In the DEIR the benefits have been quantified; the environmental risks have not, leaving the Governing Board without sufficient basis for making findings of overriding consideration based on a balance of risks and benefits.

For each of the Tier I, Tier II, and Tier III control measures, there are resultant impacts to air quality, water quality, solid waste, and other study areas (transportation, land use economics, etc.) which are not fully addressed in the DEIR.

Tier I Control Measures

1-43

- Use of carbon adsorption technologies may produce by-product wastes that include hazardous and toxic materials. The type and quantity of these materials have not been completely identified or quantified. To the extent such materials are created, existing methods and means for disposal of such materials must be discussed to determine if the capacity for disposal of such materials exists and if the generation of new or increased hazardous materials waste streams is consistent with the region's Hazardous Waste Management Plan.

1-44

- Toxic hydrogen sulfide and mercaptans may increase (DEIR, 4-1-18). The suggestion that Control Measure B-12 "should help" does not sufficiently quantify or address the emissions of a toxic air contaminant which therefore must be considered as a significant impact.

It is also difficult to determine the actual amount of wastes generated from carbon adsorption by a facility because this depends in part upon the manner in which those subject to a particular control measure choose to comply. For example, because of the potential liability associated with disposing of hazardous wastes, as well as the increasing costs of hazardous waste disposal, many owner/operators are expected to choose control equipment that permits recycling the waste products back to the industrial process. Recycling would not only reduce wastes, but could be a cost effective means of reducing supply costs.

The Southern California Hazardous Waste Management Plan (1989) has projected that the Southern California region will increase its generation of hazardous wastes from approximately 970,000 tons per year to over 1.5 million tons per year, a 61 percent increase. To meet future hazardous waste disposal needs that may result from implementing the AQMP, the following disposal needs must be addressed:

- Treatment of aqueous hazardous wastes for disposal, including the final disposition of toxic metals;
 - Incineration issues, particularly safe incineration of hazardous materials;
 - Solvent recovery technologies and programs must be established;
 - Other recycling programs to reduce waste volumes;
 - Stabilizing hazardous wastes so they cannot migrate into the environment; and
 - Siting and building new residual repositories.
- Please refer to the response to comment 2-13 for additional information.

000044

impacts cannot be mitigated with certainty, they must be assumed to remain as significant, requiring the SCAQMD's Government Board to make findings of overriding consideration to approve the AQMP Revisions (CEQA Guidelines 15091(a)). Such findings of overriding consideration must be explicitly made by the Board and must "balance the benefits of a proposed project against its unavoidable environmental risks (CEQA Guidelines Section 15093(a))." The Guidelines also require that the findings "shall be supported by substantial evidence in the record" (CEQA Guidelines (15091(b)). Clearly, to make such a balancing determination, the benefits and risks must both be analyzed to a relatively equal level of detail. In the DEIR the benefits have been quantified; the environmental risks have not, leaving the Governing Board without sufficient basis for making findings of overriding consideration based on a balance of risks and benefits.

1-44

There is very little possibility that there may be increases in toxic air contaminants at refineries. Allowable emissions from refineries are determined by District Engineering staff and specified as a condition of operation during the permit application process. To ensure compliance with allowable emission limits, ARB has determined that monitoring devices for refinery flares are technologically feasible, available, and economically reasonable for identifying and continuously recording refinery flare emissions. ARB has directed its staff to work with local air pollution control agencies to require refineries to install such monitoring devices.

Based on the above information, the potential for significant impact is reduced by implementing the above measures and minimizing or eliminating exposure to these chemicals.

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For each of the Tier I, Tier II, and Tier III control measures, there are resultant impacts to air quality, water quality, solid waste, and other study areas (transportation, land use economics, etc.) which are not fully addressed in the DEIR.

Tier I Control Measures

- Use of carbon adsorption technologies may produce by-product wastes that include hazardous and toxic materials. The type and quantity of these materials have not been completely identified or quantified. To the extent such materials are created, existing methods and means for disposal of such materials must be discussed to determine if the capacity for disposal of such materials exists and if the generation of new or increased hazardous materials waste streams is consistent with the region's Hazardous Waste Management Plan.
- Toxic hydrogen sulfide and mercaptans may increase (DEIR, 4-1-18). The suggestion that Control Measure B-12 "should help" does not sufficiently quantify or address the emissions of a toxic air contaminant which therefore must be considered as a significant impact.

1-45

* Requirement for additional solid waste disposal capacity will increase, as a direct result of the implementation of several of the proposed control measures. Estimates of the increased need for disposal capacity must be included in the DEIR. The DEIR must also evaluate the impact of additional disposal requirements to determine if they are consistent with the region's Solid Waste Management Plan.

1-46

* A number of control measures propose the use of catalytic converters (SCR), afterburners and other combustion control devices. These devices increase ammonia slip (DEIR 4-1-30), and have other emissions consequences which either have not been stated or quantified. Such quantification is necessary to, at minimum, determine that the new change in air emissions after implementation of the proposed control measures is accurate. Disposal of spent catalyst which contains hazardous materials (AQMP Appendix IV-A, pg. C-37, for example) has not been addressed to determine the need for Class I landfill capacity or in the period following final phase-out of land disposal of hazardous waste what method of final disposal will be used for such wastes.

1-47

* The use of alternative clean burning fuels, principally methanol, is identified as a component of control measures for stationary sources and in the transportation sector (DEIR, pgs. 4-1-30, 4-1-32). The quantities of such fuel requirements are not estimated, nor is an analysis of the national production capacity necessary to make such an alternative actually feasible within the AQMP time frame included in the DEIR. Without such an analysis, the use of methanol as an alternative fuel must be considered as speculative and the resulting emissions reductions ascribed to its use discounted.

1-48

* Several of the control measures which increase production of solid wastes assume out-of-basin disposal of such wastes. In the case of Control Measure D-5, it is assumed that out-of-basin disposal will utilize transportation by electrified rail. No feasibility analysis of regional rail electrification has been included nor is any cost for rail electrification evaluated. In other cases, the increased number of vehicle trips must be estimated to determine impacts on the region's transportation system and associated air quality impacts.

1-45

As stated in the response to comment 1-43, the degree of specificity regarding the generation of wastes, municipal or hazardous, as requested by the commentator is not required in a program EIR such as the AQMP EIR (see the Executive Summary). The District has attempted to quantify some of the solid wastes that might be generated, e.g., solid wastes from carbon adsorption devices used by the furniture spray coating industry (approximately 600 tons per year, worst-case scenario). District staff have also estimated the cumulative solid wastes that may result from all of the short-term NO_x control measures (approximately 600 tons per year, worst-case scenario) (see the December, 1988 EIR for the amendment to Rule 1146, January 1989). For other industries that may be affected by the AQMP, it is difficult to predict the volume of wastes generated for these reasons: it is not known exactly how many industries will be affected, nor is it known how many facilities in each industry there are; it is not known what types of control technology a particular industry or facility may use, for example some businesses may use control technologies that recycle wastes so there may actually be waste reductions in some areas; it is unclear how current technologies can be improved or how improved efficiencies may generate wastes; and the AQMP relies on the development of new technologies, for which solid waste impacts cannot be predicted.

If the AQMP is not adopted, the volume of wastes generated between the present and the year 2000 is expected to increase by 61 percent. It is possible that adoption of the AQMP may significantly contribute to this increase in wastes generated. However, the consensus of federal, state, regional, and local governments is that the first priority for managing wastes, municipal or hazardous, should be waste reduction/minimization. The federal government has also placed great emphasis on waste recycling (the Resource Conservation and Recovery Act of 1976). In addition, the District and other regional or local governments should actively pursue the Southern California Hazardous Waste Management Plan to, "Encourage the formation of public/private partnerships to manage hazardous [and municipal] wastes."

1-46

Please refer to Attachment 4 which responds to your comments.

1-47

Please refer to Attachment 6 to the and responses for comments 2-8, 2-29, and 2-111.

1-45

* Requirement for additional solid waste disposal capacity will increase, as a direct result of the implementation of several of the proposed control measures. Estimates of the increased need for disposal capacity must be included in the DEIR. The DEIR must also evaluate the impact of additional disposal requirements to determine if they are consistent with the region's Solid Waste Management Plan.

1-46

* A number of control measures propose the use of catalytic converters (SCR), afterburners and other combustion control devices. These devices increase ammonia slip (DEIR 4-1-30), and have other emissions consequences which either have not been stated or quantified. Such quantification is necessary to, at minimum, determine that the new change in air emissions after implementation of the proposed control measures is accurate. Disposal of spent catalyst which contains hazardous materials (AQMP Appendix IV-A, pg. C-37, for example) has not been addressed to determine the need for Class I landfill capacity or in the period following final phase-out of land disposal of hazardous waste what method of final disposal will be used for such wastes.

1-47

* The use of alternative clean burning fuels, principally methanol, is identified as a component of control measures for stationary sources and in the transportation sector (DEIR, pgs. 4-1-30, 4-1-32). The quantities of such fuel requirements are not estimated, nor is an analysis of the national production capacity necessary to make such an alternative actually feasible within the AQMP time frame included in the DEIR. Without such an analysis, the use of methanol as an alternative fuel must be considered as speculative and the resulting emissions reductions ascribed to its use discounted.

1-48

* Several of the control measures which increase production of solid wastes assume out-of-basin disposal of such wastes. In the case of Control Measure D-5, it is assumed that out-of-basin disposal will utilize transportation by electrified rail. No feasibility analysis of regional rail electrification has been included nor is any cost for rail electrification evaluated. In other cases, the increased number of vehicle trips must be estimated to determine impacts on the region's transportation system and associated air quality impacts.

1-48

Rail electrification is designated as a further study measure by SCAG. Please refer to the response to Comment 2-12 regarding the depth of analysis required in this EIR.

It is assumed that the impacts the commentor is referring to are increased emissions from vehicles transporting these wastes out of the Basin. It is not possible at this time and is inappropriate to speculate about emissions impacts from transporting wastes out of the Basin for the following reasons: responses 1-43 and 1-45 give a projected increase of 61 percent in the volume of wastes projected for the Basin, and this does not consider the effect of the AQMP on solid waste generation, therefore it is unknown what the actual volume of solid wastes will be; it is unknown what percentage of these solid wastes will be disposed of in and out of the Basin; and it is unknown what volume of wastes generated will be recycled.

The commentor assumes that emissions will increase as a result of out-of-Basin waste disposal. If truck fleets change over to clean fuels, methanol for example, there may be no net increase in vehicle emissions. In addition, electrification of the rail system may provide an alternative means of disposing of wastes. If wastes are transported out of the Basin via an electric rail systems, transport emissions may actually decline. As stated above, it is not possible to quantify these emissions reduction impacts.

See also the response to comment 2-9.

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Tier II Control Measures

1-49 ° The use of some clean fuels, specifically methanol, will require significantly greater volumes of fuel due to methanol's 50% lower energy content. As noted above, the production capacity to make such fuels available has not been analyzed. Therefore, the emissions reductions that are assumed to occur due to the use of such fuels must be discounted significantly in the absence of a fuels production feasibility analysis.

1-50 ° The sole environmental impact analysis for control measures directed at surface coating and solvent use is contained in a very brief qualitative discussion found in Appendix IV-C of the AQMP (pg. 4-4). This discussion contains no data defining the degree and nature of impacts that will arise from the additional measures to be implemented in Tier 2, yet additional potentially significant impacts are noted, specifically the potential for substitute materials which may be toxic to be utilized. A quantitative analysis of substitutes must be included in the DEIR.

Tier III Control Measures

1-51 The control strategy outlined for Tier III involves shifting from conventional sources of energy to electricity as a prime mover. The technical analysis supporting this control strategy is described in Appendix IV-B of the AQMP. This document includes estimates of the electricity energy required to shift different sectors (transportation, industry, residential, etc.) to partial or full utilization of electricity. However, this document and the DEIR fail to include any meaningful analysis of environmental impacts of partial or full electrification. The Appendix does provide minimal topical discussion of the generic impacts of different types of energy generation technologies. It does not include an analysis of the degree to which these technologies would be utilized to achieve the electrification required to meet Tier III emissions reductions goals and the environmental impacts that would arise from the use of these technologies as part of any of the electrification strategies defined in the Appendix analysis.

1-49

Your comment is noted. Some clean fuels contain less energy per volume than gasoline. However, there is also less pollution per mile, even using this extra fuel. This extra fuel can be produced using abundant feed stocks. For further information on the fuel production and distribution system, please refer to Attachment 6 and to responses to comments 2-30 and 2-31.

1-50

As noted in the discussion contained in the Executive Summary to this document (Addendum to the AQMP), this EIR is analogous to the EIR for a General Plan. Thus the level of detail is, by necessity, general in nature and the analysis presented is more qualitative (rather than quantitative) in nature. Please refer to the December, 1988 EIR, which contains evaluations of impacts due to this measure, and to the responses for comments 2-46 and 2-122.

1-51

Electrification is only one option by which to achieve the necessary emissions reduction targets set forth in the AQMP. The Plan does not exclude the implementation of other low-emitting technologies, if available, providing they are able to achieve emissions reductions equivalent to that of electrification. Please refer to Attachment 5 which addresses the proposed electrification strategy for the AQMP.

As also noted in Attachment 5, the scenario presented is a "worst-case" one in which electrification of all sources which could be electrified are included. Thus, if other low-emitting technologies exist and can be substituted for the electrified sources, the impacts from electrification would be less than those impacts based on the AQMP's "worst-case" electrification strategy. Refer to the response to comment 2-9 for additional information.

000018

The DEIR is similarly devoid of any environmental impact analysis that quantifies or even estimates the order of magnitude of environmental impacts that would occur if even the transportation sector were electrified. Certainly data exist to estimate the degree of energy utilization. It follows that impact analysis could also be performed.

1-52

Please refer to Attachment 5.

1-53

Your comment and offer of assistance are noted and will be forwarded to the District Board for consideration. Please refer to the response to Comment 2-12 which discusses the level of analysis required in an EIR. Attachment 6 provides more detailed information on methanol. Specific Tier III economic impacts must be deferred to the future when its control measures are more fully defined.

1-54

Please refer to the response for comment 2-13.

1-55

Please refer to the response to comments 2-9 and 2-13.

The DEIR recognizes that further studies are necessary in certain areas in order to fully assess the environmental impacts of implementing the Air Quality Management Plan (AQMP). Two examples of the need for further study involve the use of methanol fuels and the economic impacts of implementing Tier III control measures. On page 4-1-33 the DEIR states that "potential adverse impacts from the methanol fuel program are being investigated by the District". On page 4-18-23 the DEIR states "the economic impacts of the Tier III control strategies are the most profound of all those in the AQMP. However, since they rely on as yet-to-be available technologies, the specific nature of their economic impacts cannot be discerned completely, although generalizations about the type of economic impacts can be made." The DEIR clearly recognizes that the DEIR contains insufficient information that is critical to meaningful evaluation of the proposed control technologies, especially those included in Tier III. Without the addition of this information the DEIR will remain incomplete. Edison is willing to work with the District to conduct these studies.

3.0 INADEQUATE ANALYSIS OF SECONDARY PROJECT IMPACTS

The CEQA guidelines, Section 15126 (a), require that "direct and indirect significant effects" of the proposed project must be analyzed in the DEIR (emphasis added). The DEIR fails to recognize and thus evaluate a broad range of environmental effects which would occur as a result of implementation of the Revised AQMP.

To achieve Tier 3 emissions reductions, major reliance is placed on electrification and the use of alternative fuels, principally methanol. Both of these strategies will require the construction of significant new energy production and distribution systems. The systems will include components within and beyond the Los Angeles basin. The construction and operation of these systems will be a major secondary impact of implementation of Tier 2 and Tier 3 Control Measures and must be identified and quantified before the DEIR or the AQMP Revision can be considered complete.

3.1 Indirect Impacts of Electrification

Appendix IV-B states that 45,400 MW (page IV-11) additional capacity will be required in the year 2007 to meet the additional energy requirements of the AQMP. (This value differs from that value given on page 4-15 of the DEIR.) The present projected energy requirements for Southern California Edison (SCE) and the Los Angeles Department of Water and Power (LADWP) combined is 31,552 MW in 2005 (California Energy Commission, ER-6). Allowing for some overlap in use because the CEC forecast contemplates a daytime peak and the AQMP electrification strategy will create a nighttime peak, the utilities electrical generation, transmission and distribution system must be more than doubled in less than 20 years. Even allowing for advancements such as superconductor technology, the capital investment for system expansion is of vast proportion. Construction of about 45,000 MW of new generation capacity would cost on the order of 45-67 billion dollars (1988 dollars)². Cost for installation of electric transmission and distribution systems and electrification of transportation systems (i.e., overhead cables or third rails in rail lines) will increase the cost of electrification to even higher levels. The economic impact analysis in Appendix IV-B quantifies the direct impact to individual users but fails to take into account the massive capital investments required for the user to have the energy available in the first place and ignores the question of the ability of the existing utilities to finance such expansion. It is also unclear if the unit prices used in the Appendix IV-B economic analysis accounts for the capital recovery costs associated with such significant short term capital investment. Proper economic analysis would likely show that the marginal cost of energy escalates far beyond the values used in the analysis.

In addition to the economic feasibility of the electrification strategy, a number of other environmental impacts have not been properly analyzed. A direct correlation exists between the miles of new transmission line that will be required and the dedication of land for that use. No consideration to land use consumption (or dedication) or constraints on adjacent uses is given in the DEIR. Further, no consideration is given to the region's existing general plans to determine the need for major planning efforts and revision to local and regional general plans to accommodate massive electrical system expansion.

² Assumes \$1,000 - \$1,500 per KW of installed capacity.

1-56

The District's latest analysis indicates that the AQMP does not, in itself, require construction of new power plants to provide additional capacity. Furthermore, the CPUC allows utilities to recover the cost of complying with environmental regulations, subject to a demonstration by the utility that its choice of compliance methods was prudent. Pleas to responses for comments 2-9 and 3-32 and to Appendix F.

1-57

The electric generating capacity needs of the electrification strategy have been revised downward substantially (see the response to comment 2-9). Therefore the transmission lines needed for the additional generating capacity are not as great as originally estimated. Consequently the land use impacts of additional transmission lines will not be as great. Evaluation and mitigation of these impacts are the responsibilities of the California Energy Commission and the California Public Utilities Commission, in coordination with the local governments, that may have to modify their general plans to reflect greater land requirements of transmission lines.

000050

The DEIR and Appendix IV-B also fail to properly consider the use of out-of-region and out-of-state generation resources as a potential supply source for increased generation. The electrification strategy relies on importation of approximately 70-80% of all electricity supplies (Appendix IV-B, page V-1). This means that at peak on the order of 42-48,000 MW³ of generation would be imported to the Los Angeles basin. The Appendix provides no basis that this amount of electricity could be imported from outside the Basin. The CEC's 1986 Electricity Report does no more than allude to the viability of out-of-state resources that could be available to meet the needs of the proposed electrification strategy. Furthermore, to the extent the AQMP Revision expects to rely on imports from the Pacific Northwest or Canadian supplies which are heavily based on hydro-electric generation, these supplies are not available on a year-round basis and would still require back-up generation resources. In addition, the CEC's analysis of the Pacific Northwest shows that imports from this region are limited by present intertie capacity. If the AQMP is to rely on major imports from the Pacific Northwest, an analysis of the secondary impacts of additional intertie capacity must be included in the AQMP.

1-58

Please refer to Attachment 5. Please refer also to the response for Comment 2-9.

The DEIR assumes that 70-80 percent of the Basin's electricity needs will be imported. The development of sufficient generating capacity will therefore take place outside the Los Angeles area in other parts of California or more probably in other states. The implementation of the electrification strategy is therefore dependent on approvals of agencies in other states, who are under no obligation to allow powerplants to be constructed in their states. In effect, the environmental effects of building and operating the power generation facilities will occur elsewhere and the benefits of electrification will accrue to the Los Angeles Basin. While the DEIR recognizes this inequity (DEIR, pg. 4-15-8) and quantifies the amount of electrical generation capacity required, it fails

³ Assumes total generation of 60,000 MW. Current capacity of the SCE and LADWP systems combined in 2005 will be 31,552. Projected additional capacity for Tier 3 is 45,000 MW. Adding these values together yields a total load requirement of approximately 77,000 MW. This is reduced somewhat because current and future loads will not peak at the same hour of the day, thus giving an assumption of 60,000 MW.

to include an estimate of the air quality, water use, socioeconomics and other environmental effects, some of which may be significant according to the DEIR itself (DEIR, pg. 4-15-8).

3.2 Indirect Impacts of Methanol as an Alternative Fuel

Both the Tier 2 and Tier 3 control strategies include the use of alternative fuels, principally methanol for transportation and stationary sources. The DEIR implies that such fuel substitution on such a massive scale is both feasible and achievable with any supporting evidence.

A system of methanol production and distribution does not presently exist in the United States of any significant size. For methanol use to be practically implemented both production and distribution systems on the same magnitude as that which presently exists for petroleum based fuels must be created. The problem is compounded by the fact that methol with its significantly lower heating value will require approximately twice as much fuel by volume for the petroleum based fuels that it replaces. In addition, methanol production is energy intensive.

If, in fact, regional centers outside Los Angeles were developed for fuel production, transportation systems including local delivery systems must still be developed. These systems would most likely be rail tankcar, pipeline or barge delivery to the Los Angeles area and pipeline and truck delivery within the basin. A number of secondary impacts would arise from such systems that have not but must be analyzed by the DEIR. These impacts include, but are not limited to, the development of right-of-ways for pipelines, significant new air emissions and vehicle trips from the delivery of fuels by truck, additional ship operations and the impacts of over 40 unit trains per day transiting the basin if just the fuel required for power plants were delivered by rail. All of these secondary impacts must be identified and evaluated if the use of methanol is assumed as an emissions control measure.

1-59

Please refer to Attachment 6 and to the responses for comments 2-13 and 2-111.

000052

A number of studies have been conducted which discuss the feasibility of development of methanol production capacity at the national level.⁴ It is not likely that such production capacity would be constructed solely in response to the need of the Los Angeles basin except through government intervention. The objective of the AQMP is to be in compliance with the federal and state standards by the year 2007. Thus, if methanol fuels are to be a meaningful component of the AQMP, massive production capacity must begin construction in the next few years. The DEIR fails to address the mechanisms, both economic or regulatory that would cause such production capacity to begin construction or to assess the secondary environmental impacts of such production. Without such an analysis to determine if such production capacity will be available in the required time frame, the emission reductions associated with methanol use must be significantly discounted.

4.0 PROJECT ALTERNATIVE EVALUATION

Section 15126(d) of the CEQA guidelines calls for an examination of alternatives "...which could feasibly attain the basic objectives of the project, and evaluate the comparative merits of the alternatives."

The DEIR states that "alternatives presented in the above section will not attain the ambient air quality standards as efficiently or effectively as the proposed AQMP" (DEIR, pg. 5-5). The DEIR provides no factual basis for this conclusion and includes no direct comparison of the merits of the alternatives and is thus insufficient to meet the requirements of CEQA.

⁴ While the DEIR notes that several other countries currently have production capacity available, it does not evaluate the actual capacity available and determine if this is sufficient to meet demand. In addition, sole reliance on international sources of fuel could place the entire economy of the Los Angeles basin in a strategically disadvantageous position. To assume international production as the source of supply requires that the DEIR also include an analysis if the secondary impacts of supply disruptions due to international events. The DEIR notes that energy supply reliability is an important consideration in the electricity sector (DEIR, pg. 4-15-7), but fails to evaluate the same issue for methanol.

1-60

Making methanol widely available in the Basin will require establishment of a network of production facilities, delivery pipelines, and distribution outlets. Current local land use plans may designate available industrial land in appropriate locations. If not, local land use plans will have to be modified.

Methanol production facilities and distribution networks could be incompatible with some nearby land uses, resulting in a changing land use mix adjacent to the facilities over time. If sufficient land for production facilities is not available, these land use impacts would occur in jurisdictions outside the Basin. Please refer also to Attachment 6 and to the response for comment 2-13. Response 2-9 characterizes the types of impacts that methanol facilities will have when constructed out-of-Basin.

1-61

Please refer to the responses for comments 1-1 as well as 1-5 and its references.

See also the responses for comments 2-1, 2-6, and 2-7.

1-62

A discussion of the methanol production and distribution system is contained in Appendix 6. Reliance on international methanol supplies exposes the Basin to fuel disruptions that, if they were to occur, could cause significant adverse impacts to Basin residents. The appropriate time to address this issue is when this control measure is being considered for implementation.

000353

4.1 Incomplete Analysis of Alternatives

The analysis of alternatives is stated in terms of the attainment of emissions reductions (i.e., in terms of project objectives). The DEIR does not include a summary of the impacts of the alternatives. Therefore, the DEIR fails to include sufficient information upon which to compare the alternatives to the preferred alternative (AQMP Revision). (Unfortunately, the DEIR also does not include summary information on the environmental impacts of the AQMP Revision including impacts on the regional economy which provides a basis for comparison the listed alternatives).

The DEIR appears to assume that the potential emissions reductions from each of the proposed control measures will occur regardless of the control measure feasibility. The more realistic future will be that some control measures will result in the desired emissions reductions, other will not so that the total emissions reductions achieved may be on the same level as one or more of the alternatives. This being the case, if an alternative, is less environmentally damaging and provides the same benefits (emissions reductions), that the SCAQMD Governing Board must be so informed.

4.2 Evaluation of ROG Alternative

Southern California Edison, through extensive ozone air dispersion modeling, has demonstrated a feasible alternative which has not thoroughly been addressed in the DEIR. A Reactive Organic Gases (ROG) only emissions control strategy is mentioned in the DEIR, but this potential alternative is dismissed without adequate explanation. The DEIR should evaluate this ROG oriented alternative because EPA has recommended this as the preferred attainment strategy for areas like the Los Angeles Basin.

The DEIR states on page 2-15 that "Emission reductions that may be achieved under this strategy (i.e., the ROG only measure) have not been fully modeled, yet it is unlikely that implementation of this strategy would permit attainment of the air quality standards". This is a false statement. SCE's urban airshed model analysis found ROG reductions always resulted in ozone reductions; while NO_x reductions could result in either ozone increases or reductions. The DEIR's conclusion that the ROG alternative would not permit attainment of air quality standards is apparently made without substantial quantitative evidence by admission in the DEIR and thus must be ignored.

1-63

Please refer to the December, 1988 EIR, pages 6-2 to 6-19, and Table 6-1. Please refer also to Attachments 1 and 2.

1-64

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. A discussion of alternatives to the AQMP can be found in Attachment 1. Please refer to the responses for comments 2-10, 2-20, and 2-30 regarding implementation.

1-65

As described in the response for comment 1-1, the SCE and WOGA alternatives have since been evaluated by District staff. The results of this analysis are contained in Attachment 2. A discussion of the implications of a no-NO_x, low-NO_x alternative are discussed in Attachment 2. Based on this evaluation, the District staff has concluded that the no-NO_x, low-NO_x strategies proposed by SCE and WOGA will not attain all federal air quality standards, although reductions in ozone would occur within a slightly shorter time frame and adverse impacts (including economic and socioeconomic impacts) could be reduced.

In spite of the DEIR's conclusion, the ROG only alternative certainly warrants further study by the South Coast Air Quality Management District as a viable project alternative. In fact, the AQMP, as currently implemented, does not show complete attainment of the federal ozone standard, so it is inconsistent to dismiss any alternative which may actually achieve better air quality than the preferred alternative.

1-66

An analysis of direct impacts on public services is provided in Section 4-13 of the December, 1988 EIR, pages 4-13-1 to 4-13-8. The fiscal impacts and the resulting ability of local jurisdictions to implement and enforce control measures contained in the AQMP are discussed on page 4-18-6 of the December, 1988 EIR and in Appendix F. As a plan, the AQMP inherently examines cumulative impacts. Perhaps the best example is the air quality modeling which integrates all control measures and projects air quality in the future. Please refer to the responses for comments 2-10, 2-27 and 2-30 regarding implementation.

5.0 THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE OF LONG-TERM PRODUCTIVITY

Section 15126(e) of the CEQA guidelines addresses this requirement of the DEIR. This section must "describe the cumulative and long-term effects of the proposed project which adversely affect the state of the environment." The purpose of this section is to inform decision-makers about not only the direct and indirect impacts of the project, but the effect of the project when its impacts, even if they are minor, are added to other contemporaneous projects to assure that incremental impacts from several separate projects do not overwhelm a region's resources. For such an analysis to take place quantification of project impacts is necessary.

The DEIR states "The implementation of air pollution control measures, especially for Tiers II and III, will cause massive infrastructure changes in the region. These changes could impact the ability of government to provide public services" (DEIR, pg. 6-2). However, to be fully informed, the Governing Board must be provided with an analysis of the public service sector, especially utility waste management and transportation sectors ability to support implementation.

This conclusion is certainly a possible outcome of implementation of the AQMP Revision. However, to be fully informed, the SCAQMD Governing Board must be provided with an analysis of the public sector's ability to support implementation of the AQMP, especially the utility, transportation and waste management sectors.

000055

The large-scale use of alternative fuels will cause impacts beyond the boundaries of the Basin. Various activities must be undertaken nationwide to provide these fuels. This will include the developing feedstocks such as natural gas and coal, refining the fuel, and providing an infrastructure for its transportation."

The DEIR inadequately describes these long-term effects. Massive infrastructure changes in the region warrant further study as to overall environmental impacts.

6.0 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN IMPLEMENTATION OF THE PROJECT

Section 15126(f) of the CEQA guidelines requires that "irretrievable commitments of resources should be evaluated to assure that such current consumption is justified." The DEIR, page 7-1, states that "Implementation of the AQMP will irreversibly commit the future generations to the use of an environment in the South Coast Air Basin which will be greatly changed from current conditions." These irreversible changes include use of significant amounts of non-renewable resources (land, money, manpower, energy and materials), increases in the cost of living and doing business in the Basin, and a basic disjunction between business operations and social conditions within the Basin as compared with the rest of the nation. These irretrievable commitments of resources described above have not been adequately evaluated as required by CEQA.

7.0 SPECIFIC COMMENTS ON THE DRAFT EIR FOR 1988 AQMP

The following detailed comments and Table 1 list changes and additions which are necessary for the Draft EIR to be complete per CEQA guidelines.

CHAPTER 2 - PROJECT DESCRIPTION

*Page 2-4, Table 2-1:

This table shows a summary of baseline air emissions for the South Coast Air Basin.

- Comment: The sulfur oxide emissions change between 1985 and 2000 is incorrect (the correct value appears to be +12 tons/day). Also, the sulfur oxide emissions total for year 2010 is incorrect and also the change between 1985 and 2010 is incorrect. "AQMP Target Emissions Reductions" data are not included in the table as stated on pg. 2-3.

1-67

Please refer to Appendix 6 which addresses the impacts from methanol production, distribution, and use. Also, refer to the response for comment 1-60.

1-68

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. See also the response for comment 1-24.

1-69

Your comment is noted. Please refer to Appendix SCE 1 to these responses which contains the correct emissions baseline figures and anticipated emissions reductions.

*Page 2-6, paragraph 4:

- Comment: Under Agricultural Processes NH₃ is implied to be a criteria pollutant. If so, NH₃ emissions from SCR should be analyzed to determine what quantities will be created.

*Page 2-8, paragraph 1:

Transportation source controls.

- Comment: In the next to last line of the paragraph, the -10 tons/day should be changed to 10 tons/day.

*Page 2-9, paragraph 1:

Surface Coating and Solvent Use.

- Comment: The second line should contain the word processes not process.

*Pages 2-10, 2-11, 2-12, and 2-13, Tables 2-2, 2-3, 2-4 and 2-5:

These tables summarize emission reductions and emissions inventories.

- Comment: The emissions reductions shown in these tables do not correlate with the reductions described in pages 2-6 through 2-9 of the DEIR. Also, there seems to be emissions inventory information missing in Tables 2-2, 2-3, and 2-4.

*Page 2-15, paragraph 1:

This paragraph describes the ROG Controls Only approach.

- Comment: The DEIR states that "Emission reductions that may be achieved under this strategy have not been fully modeled..." This admission does not serve the intent of CEQA concerning evaluation of project alternatives. These reductions should be modeled to assess their impact.

*Page 2-15, paragraph 3:

Alternative Growth Scenario.

- Comment: Change "entirety" to "entirely".

Delayed Compliance Alternatives:

- Comment: What is the basis for setting 2007 as the year for completing implementation of the AQMP. The DEIR must demonstrate that some later year is not acceptable.

1-70

The basic assumption of this comment, that ammonia (NH₃) is a criteria air contaminant, is incorrect. On the West Coast, the primary precursors of acid deposition are NO_x and other nitrogen-containing species, including ammonia. As explained in Attachment 4, the most effective strategies for reducing acid deposition are NO_x reduction rules. Although some of the short-range NO_x reduction rules may generate 3 to 4 tons per day of ammonia, these rules are expected to reduce NO_x emissions by over 70 tons per day. Any other ammonia emissions reductions are expected to help reduce acid deposition.

1-71

Please refer to the December 1988 EIR text on page 2-23, paragraph 2.

1-72

Your correction is noted and will be incorporated in the Final EIR after the Board adopts an AQMP.

1-73

Please refer to Attachment SCE #1 at the end of the responses to comments to this letter.

1-74

Please refer to Attachment 1 which discusses and compares the alternatives to the AQMP, as well as to Attachment 2 which describes the District evaluation of the ROG/NO_x alternatives.

1-75

Please refer to the December 1988 EIR text on page 2-34, paragraph 1.

1-76

The purpose of the EIR is to evaluate the environmental impacts associated with the proposed project. As proposed, the AQMP is a twenty-year plan to demonstrate attainment of federal air quality standards. An assessment of a delayed compliance alternative, showing the pros and cons, is contained in Chapter 5 of the EIR. Please refer to the response for comment 2-30.

CHAPTER 3 - EXISTING AND FORECAST SETTING IN THE BASIN

*Page 3-6, paragraph 2:

Oxides of Nitrogen.

1-77

- Comment: The second sentence states "NO₂ levels are currently 15 percent above the federal standard." This statement is false and misleading. The data from Table 3-1 show NO₂ levels only 2.4 percent above the federal standard.

*Page 3-15, Table 3-3:

Summary of Emissions.

1-78

- Comment: The total SO_x emissions in this table do not add from the individual values.

*Page 3-25, paragraph 4:

1-79

Marine water.

- Comment: In the first line "th" should be "the".

*Page 3-27, Table 3-9:

1-80

Land Use Acreage.

- Comment: The individual acreages do not add to give the total acreages shown in this table.

CHAPTER 4 - ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

*Page 4-1-3, paragraph 1:

Ozone.

1-81

- Comment: The first line of this paragraph should be deleted.

*Page 4-1-3, Table 4-1.1:

Basin-wide Precursor Emissions.

1-82

- Comment: The footnote in this table is not understandable and is misleading. Also "annual" is misspelled.

1-77

Your comment is noted. The statement should read, "1987 NO₂ levels are 2 percent above the federal standard."

1-78

Please refer to the baseline emissions and emissions reduction tables contained in Appendix SCE 1 at the end of the responses to this letter.

1-79

Please refer to the December 1988 EIR text on page 3-29, paragraph 1.

1-80

The totals are the total land available in each county. As noted in the footnote to Table 3-9, the total includes vacant land and land considered undevelopable. In addition, because of the way SCAG reports the data, some categories may include subsets of other categories. Thus, "residential" and "commercial" land acreage may also be reflected in "urban" land uses. Thus, the total does double count land acreage.

1-81

Your comment is noted. However, the first line of this paragraph describes the information contained in Table 4-1.1 and will be retained.

1-82

Please refer to the December 1988 EIR text on page 4-1-3, footnote to Table 4-1.1.

000000

*Page 4-1-7, Table 4-1.2:

Annual Average and 24-Hour Maximum PM₁₀ Mass Concentrations:

- 1-83 - Comment: Footnote f should read "mountains" and footnote g should insert "miles" between 110 and SW.

*Page 4-1-19, paragraph 1:

- 1-84 - Comment: Change 60 percent to 73 percent according to the District's emissions inventory.

*Page 4-1-27, paragraph 5:

Mitigation.

- 1-85 - Comment: The health hazards and hazardous waste impacts of substitution of reactive solvents by exempt solvents are secondary project impacts which should be addressed in more detail than currently handled in the DEIR.

*Page 4-1-28, paragraph 7:

Mitigation.

- 1-86 - Comment: Increased solid waste disposal impacts from FCC control measures are not adequately addressed as secondary project impacts in the DEIR.

*Page 4-1-29, paragraph 5:

Mitigation.

- 1-87 - Comment: The increased NO_x emissions due to operation of afterburners are not addressed as secondary project impacts. These NO_x emissions may amount to a significant increase.

*Page 4-1-30, paragraph 4:

"Significant Reduction in NO_x"

- 1-88 - Comment: This statement is untrue. It could increase ozone and is not needed for PM₁₀ if proper fugitive controls are implemented.

*Page 4-1-30, paragraph 7:

Impact.

- 1-89 - Comment: The secondary impacts of transporting and disposing of biodegradable solid waste out of the Basin have not been addressed.

1-83 Your comment is noted and will be corrected in the Final EIR after adoption of an AQMP.

1-84 Please refer to Table 2-1, page 2-4, of the Draft EIR which shows total NO_x emissions for 1985 to be 1033 tons/day, and On-road Mobile Source NO_x emissions to be 619 tons/day, which results in 60 percent of Basin-wide emissions.

1-85 Please refer to Appendix SCE 3 at the end of the responses to this letter.

1-86 In a typical FCC unit, the spent catalyst from the base of the reactor is steam stripped to remove residual hydrocarbons and then transferred to the regenerator by injecting preheated air into the transfer line. The carbon is combusted as soon as the hot, spent catalyst hits the air.

The flue gases then pass through the regenerator's cyclone separators to remove most of the catalyst particulates. Final dust cleanup is accomplished by passing the effluent gases from the cyclone separators through an electric precipitator. The gases from the precipitator are introduced into a carbon monoxide boiler where the sensible heat and the heat content of the CO is used to produce steam in some flow schemes.

The weight of dust per cubic foot of exit gas remains constant at about 0.002 pound at bed velocities up to a critical velocity of 1.5 fps, although it rises rapidly with higher velocities, e.g., 0.01 pound at 1.8 fps.

From the above information it should be possible to calculate the volume of solid wastes generated per unit. However, it is difficult to determine the total volume of wastes generated because it is difficult to predict the future number of FCC units in the Basin, their exact size, or their flow-through velocities. Therefore, the extent to which these units will affect solid waste disposal facilities is unknown. See also the responses to comments 1-43 and 1-45.

000059

*Page 4-1-7, Table 4-1.2:

Annual Average and 24-Hour Maximum PM₁₀ Mass Concentrations:

- 1-83 - Comment: Footnote f should read "mountains" and footnote g should insert "miles" between 110 and SW.

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*Page 4-1-30, paragraph 7:

Impact.

- 1-89 - Comment: The secondary impacts of transporting and disposing of biodegradable solid waste out of the Basin have not been addressed.

1-87

Afterburners are not expected to be the control measure of choice for most emission sources, because of their high cost. Reformulation of VOC- containing compounds is expected to be used instead of afterburners; reformulation is the probable emissions control option. These secondary emissions from use of afterburners are projected at less than 2 tons per day (after mitigation) with ROG reductions of more than 40 tons per day. This data is from the recently released Draft EIR on Rule 1168. The impact of NO_x is significant regionally, but may be acceptable based on the ROG emissions reductions achieved.

1-88

The relationship between ozone and NO_x is complicated by the fact that NO_x both forms and destroys ozone at different stages of the photochemical cycle. Localized high NO concentrations inhibit the formation of ozone due to NO-O₃ titration and the depletion of NO₂ concentrations due to the presence of organic radicals. Although this behavior had been observed and verified in many studies, there is evidence that the inhibitory effect of NO on ozone formation is not a true inhibition but only a delay (see, for example, Seinfeld, 1985, Air Pollution: Physical and Chemical Fundamentals, McGraw Hill). The photochemical formation of ozone is generally suppressed by high NO_x concentrations in the ambient air as air parcels travel from the coastal to inland areas until the NO_x concentrations are sufficiently dispersed or diluted.

The overall perturbations of ozone concentrations due to NO_x controls depend on the specific meteorology and the mix of ROG and NO_x in the ambient air. It is the ROG/NO_x ratio in ambient air which determines how effectively NO_x scavenges ozone. However, it is important to note that the NO_x scavenging effect is included in the complex chemical mechanism built into the UAM model used by the District to predict ozone air quality.

1-89

Please refer to the response for comment 1-48.

1-90 *Page 4-1-31, paragraph 2:
 - Comment: The ammonia discussion is not mentioned in the discussion of PM₁₀ on page 4-1-9. What are the impacts. Qualify how much it would help.

1-91 *Page 4-1-31, paragraph 6:
 Mitigation.
 - Comment: Reduction of ammonia emissions may increase acid deposition in Riverside and San Bernardino; however, this secondary impact is not adequately addressed in the DEIR.

1-92 *Page 4-1-32, top of page, paragraph 6:
 Motor Vehicles, Impact.
 - Comment: Acid disposition is not as important as PM₁₀ which is a non-attainment pollutant. The DEIR states that "...the full impact of the increased formaldehyde emission is yet to be determined." This secondary impact is clearly not adequately addressed in this DEIR.

1-93 *Page 4-1-33, paragraph 4:
 Transportation System and Land Use.
 - Comment: Is it realistic to assume that a 5 percent reduction in passenger car registration will be effected by raising registration fees? Is this assumption documented elsewhere in the DEIR?

1-94 *Page 4-1-34, paragraph 3:
 - Comment: Explain what improvements are planned for "105 Freeway."

1-95 *Page 4-1-35, paragraph 5:
 - Comment: What are the effects of fees on emissions reductions?

1-96 *Page 4-2-4, paragraph 6:
 Impact.
 - Comment: The liquid hazardous waste resulting from cleaning and regenerating carbon adsorbers has not been adequately addressed as a secondary project impact.

1-90 Please refer to the responses to comment 1-70 and to Attachment 4.

1-91 Please refer to Attachment 1.

1-92 Please refer to Attachment 6. And to the response for comment 2-8.

1-93 The five percent reduction in passenger car registration is the assumption used in Control Measure H-2 in the AQMP. It is the purpose of the EIR to evaluate the project as proposed.

1-94 The statement should refer to the 405 freeway, not the 105 freeway. An example of such improvements is high occupancy vehicle lanes.

1-95 Refer to pages 4-18-30 and 31 of the December, 1988 EIR.

1-96 Please refer to Appendix SCE 4.

000061

*Page 4-2-8, paragraph 5:

Impact.

- Comment: This disposal of liquid wastes by slurring them into sewage treatment systems has not been adequately addressed as a secondary project impact.

*Page 4-7-7, paragraph 3:

Electrification, Impact.

- Comment: The electrification control measure will require additional transmission line capacity. The secondary impacts associated with new transmission and distribution line corridors have not been adequately addressed. Aggregated costs have not been addressed.

*Page 4-8-3, paragraph 3:

Mitigation.

- Comment: The sentence should read "offset" not "offoset".

*Page 4-9-8, paragraph 1:

Mitigation.

- Comment: The words "Clean Air Act" should be changed to "Superfund Amendments and Reauthorization Act".

*Page 4-10-1, paragraph 3:

Impact.

- Comment: In the setting section there are percentage values given for work forces which will have to adopt alternative schedules or locations or telecommute to work. However, in paragraph 3 the DEIR states "The potential magnitude of population relocation is not known at this time..." There is some inconsistency here and this leads to not adequately assessing a very important secondary project impact - housing and population impacts.

*Page 4-11-1, paragraph 1:

Growth Management, Setting.

- Comment: Strike the word "the" in the second line.

1-97

The potential for secondary adverse impacts on sewage plants treatment exists for this measure. However, treatment plants can review and determine whether or not to accept liquid wastes doing so will affect treatment operations and compliance with waste discharge requirements. The details of this measure will be examined when it is considered for implementation.

1-98

Refer to the responses for comments 1-57 and 2-29. The cost of additional transmission lines would be recovered through the normal rate-making process, subject to PUC approval.

1-99

Your comment is noted and will be corrected in the Final EIR after adoption of an AQMP.

1-100

Your comment is noted and will be corrected in the Final EIR after adoption of an AQMP.

1-101

Please refer to Appendix F and to the Growth Management Plan for additional data regarding potential population and housing impacts.

1-102

Your comment is noted and will be corrected in the Final EIR after adoption of an AQMP.

*Page 4-14-2, paragraph 1:
Setting, Impact

1-103 - Comment: Add "and industrial furnaces." Has the review process included consideration of the California Energy Commission.

*Page 4-14-3, paragraph 3:
Transportation: Tiers I and II, Setting.

1-104 - Comment: Is it realistic to assume that 20 percent of the passenger vehicle fleet will be electrified to achieve Tier II goals? Is there background documentation to support this assumption?

*Page 4-14-4, paragraph 1:
Setting

1-105 - Comment: Liquid and solid fuels should be considered for back-up use only by making natural gas curtailment less likely through improved storage and gas system planning.

*Page 4-14-7, paragraph 3:
Electrification: Tier III, Setting.

1-106 - Comment: Is it realistic to assume that 100 percent of the passenger vehicles will be powered by electricity? Is there background documentation to support this assumption.

*Page 4-14-8, paragraph 3:
Natural Gas Industry, Impact.

1-107 - Comment: The DEIR states that "Increased demand for methanol could also increase the demand for coal, resulting in mining, transport, and processing impacts outside the Basin." The DEIR does not even cursorily address these secondary impacts which could result in significant environmental effects.

*Page 4-14-9, paragraph 3:
Petroleum Industry, Impact.

1-108 - Comment: This scenario involves the elimination of petroleum fuels within the basin. Might this scenario involve the closure of petroleum refineries in the basin? The secondary impacts of this potentiality have not been addressed - housing, employment, economics, etc.

1-103 Your comment is noted. The District has received comments on the AQMP from the California Energy Commission.

1-104 Tier II control measures include already-demonstrated control technologies, but require advancements that can reasonably be expected to occur in the near future. When necessary, these advancements are promoted through regulatory action.

Prototype electric vehicles exist and are in use in vehicle fleets at Southern California Edison and the Department of water and Power. Significant advances in electric vehicle technologies over the past decade combined with projected near-term advances in battery technologies and plans to bring electric vehicles into commercial production within the next five years lead us to believe that 20 percent penetration of the passenger vehicle fleet is a reasonable goal. Please refer to the responses for comments 2-10, 2-20, 2-27, 2-30, and 2-31.

1-105 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

1-106 By definition, Tier III strategies will require that major technological breakthroughs be accomplished. Thus, Tier III is a goal to be worked toward. However, if sufficient advances in technologies have not occurred to achieve this goal to meet the standards, contingency measures such as holding VMT to 1985 levels, emission charges, and highway use fees would need to be pursued. Please refer to the response for comment 1-104.

1-107 Your comment is noted. Please refer to the response for comments 2-9, 2-13, 2-111 and 2-5.

1-108 The issue of forecasting secondary impacts is partially addressed in the response to comment 2-12. The socioeconomic impacts of the AQMP are discussed in Appendix F. Annual compliance costs and price impacts, by Standard Industrial Code, are described in the December, 1988 EIR, pages 4-18-4 to 4-18-7. Impacts on petroleum and natural gas production and distribution are also discussed in the December, 1988 EIR, pages 4-18-9 to 4-18-10.

000063

*Page 4-15-2, paragraph 1:

Impact.

1-109 - Comment: The AQMP electrification strategy will require about 46,060 MW of additional generating capacity by the year 2007. The significant secondary environmental impacts of this additional capacity are not adequately addressed in this DEIR.

*Page 4-15-2, paragraph 2:

Impact.

1-110 - Comment: Table 4-15.2 is not shown in the DEIR.

*Page 4-17-4, Table 4-17.1

Potential Impacts from Emission of Toxics.

1-111 - Comment: The potentially adverse impacts identified in this Table for solvents and coatings and alternative fuels have not been adequately addressed.

*Page 4-17-7, paragraph 1:

Solvents and Coatings, Impacts.

1-112 - Comment: Change "have" to "has" in line three. Give specific references.

*Page 4-18-1, paragraphs 3 and 4:

Introduction

1-113 - Comment: Costs should be compared to net charges in regional GNP because costs are ultimately paid from personal income. Discuss impacts to the economy resulting from firms.

*Page 4-18-6, paragraph 4:

Gas Turbine Power Generation.

1-114 - Comment: How significant are 1 to 2I NO_x emissions. The additional 660 tons/day of solid waste disposal resulting from the proposed project is not adequately addressed in this DEIR. Also approximately two thirds of electrical power is generated outside the Basin.

Revised Table 4-5, "Energy Forecast for AQMP Electrification Strategy" lists an estimated additional generating capacity of 4,400 MW (daytime) and 9,200 MW (nighttime). Appendix IV-B discusses in detail the technologies which may be able to provide the energy required to promote full electrification of the Basin. The significant secondary impacts of this additional capacity will be addressed in depth during the power plant licensing process. Refer to the response for comment 2-9.

1-110 Your comment is noted. Please refer to Table 5-2 in Attachment 5.

1-111 Your comment is noted and will be forwarded to the District Board for considerations in making its decisions on the AQMP. Please refer to the response for comment 2-122.

1-112 Your comment is noted and will be incorporated in the Final EIR for the AQMP after Board adoption.

1-113 Please refer to Appendix F for the District compilation of socioeconomic factors.

1-114 Since the Basin is currently a non-attainment area for NO_x, all cost effective NO_x reduction measures must be considered. The 660 tons/day of solid waste is the maximum estimate of the amount of recycled newspaper that would be generated if all non-complying Basin paper mills using recycled paper were to close due to NO_x limits on their turbine operation. Most, if not all of this recycled paper would be absorbed by other paper mills, both within and outside the Basin. For further discussion, see the District Revised Draft EIR - Proposed Rule 1134, Control of Oxides of Nitrogen from Stationary Gas Turbines.

One-third of the Basin's power is generated in-Basin. Increased electricity demand may increase Basin emissions by one-third of the total. Please refer to Attachment 5 and to the responses for comments 2-9 and 2-13.

000064

*Page 4-18-23, paragraph 5:

Tier III.

1-115 - Comment: The DEIR states "The economic impacts of the Tier III control strategies are the most profound of all those in the AQMP. However, ... the specific nature of their economic impacts cannot be discerned completely..." This admission does not adequately address the CEQA requirements for assessing economic impacts.

CHAPTER 5 - ALTERNATIVES TO THE PROPOSED PROJECT

*Page 5-1, paragraph 1:

Alternatives to the Proposed Project.

1-116 - Comment: The failure to assess a feasible alternative - ROG only controls - has been mentioned and discussed in the critical inadequacies description of these comments.

*Page 5-2:

1-117 - Comment: The DEIR does not address the ROA's only alternative which may prove to attain standards for less cost. This alternative must be fully addressed.

CHAPTER 6 - THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

*Page 6-1, paragraph 1:

Long-term Productivity.

1-118 - Comment: The failure to properly address the CEQA requirements of this section have been explained in the critical inadequacies section of these comments.

CHAPTER 7 - SIGNIFICANT IRREVERSIBLE CHANGES WHICH WOULD BE INVOLVED IN IMPLEMENTATION OF THE PROPOSED AQMP

*Page 7-1, paragraph 1:

1-119 - Comment: The failure to properly address the CEQA requirements of this section have been explained in the critical inadequacies section of these comments.

1-115

Tier III programs are designed to bring about major technological breakthroughs to further reduce emissions. Unlike the first two tiers, which focus on implementation of known control measures, Tier III promotes research, development, and widespread commercial application of technologies that may not exist yet, but may be reasonably expected given the rapid technological advances experienced over the past 20 years.

CEQA does not require detailed information on issues that result in speculative analysis of environmental consequences for future, unspecified development. Additional data are presented in Appendix F and in the December, 1988 EIR.

1-116

Please refer to the responses to comments 1-1 and 2-1 and to Attachments 1 and 2.

1-117

Please refer to the response for comment 1-116.

1-118

Please refer to previous responses to the issues raised (comment 1-66), to the December, 1988 EIR (Chapter 6), and to these responses to comments.

1-119

Please refer to the response for comment 1-24.

000035

TABLE I

ANALYSIS DEFICIENCIES

TIER I, TIER II and TIER III CONTROL MEASURES

Control Measure	Unidentified Direct Impacts	Unidentified Indirect Impacts	Other
Surface Coating & Solvent Use	<ul style="list-style-type: none"> * Increases in solid/liquid hazardous wastes have not been quantified. p. A-4, A-5, A-6, A-15, A-22, A-30, A-53. * Increases in toxic air contaminants have not been quantified. p. A-18, A-30, A-37, A-44, A-57. * Coating reformulation could be less efficient leading to increased use. Increases are not quantified. p. A-7, A-9, A-30. * Natural gas consumption for additional incinerators for control measures is not quantified. p. A-18, A-24, A-30, A-53. * Emissions were <u>not</u> determined for a subset of domestic products, then potential reductions for the total source category, p. A-66, <u>are</u> quantified. Need to quantify domestic products (underarm) emissions. 	<ul style="list-style-type: none"> * Relocation of coating, ship-building, dry cleaning operations could have negative socioeconomic impacts, not quantified. p. A-57, A-24. 	<ul style="list-style-type: none"> * Further analysis required for cost effectiveness A-5,-27,-64,-73 * Further analysis required for emissions reductions 88-A-20.
Petroleum & Gas Production	<ul style="list-style-type: none"> * Increases in solid/liquid hazardous and non-hazardous waste have not been quantified. p. B-26, 31, 33, 38. 	<ul style="list-style-type: none"> * Increase in ammonia emissions if SMCR or SCR is used is not quantified. p. B-23, 51, 53. * Discuss impacts if methanol is to be used as clean fuel. p. B-23. 	<ul style="list-style-type: none"> * Control measures for pleasure boat refueling operations should reflect the additional data (Addendum CMMB-B-3) for control efficiencies. p. B-15. * Obtain better information re gasoline service station in-use malfunctions/mispractice rates for Phase I. p. B-6. * Further modeling may be required to quantify the temporal effect on criteria pollutants. p. 38

ANALYSIS DEFICIENCIES

TIER I, TIER II AND TIER III CONTROL MEASURES
(continued)

Control Measure	Unidentified Direct Impacts	Unidentified Indirect Impacts	Other
Off-Road Vehicles	<ul style="list-style-type: none"> * Identify the "certain portion" of motorships affected by CH#88-1-1. p. 1-4 in order to obtain emissions reductions. * Identify the basis for the 17 percent NO_x emissions reductions for CH#88-1-4. p. 1-19. Is the 30 minute delay included in this basis? * Quantify the emissions reductions associated with electrification of certain rail operations, p. 1-30. 	<ul style="list-style-type: none"> * Include the possibility of shift in marine vessel housekeeping jobs from contractors to crews in CH#88-1-3. Possible negative economic impacts. p. 1-16. 	<ul style="list-style-type: none"> * Correct the typographical error in CH#88-1-6 ROG emissions reduction year 2000. p. 1-29. (Formerly a Tier I measure).
CH#88-T-1 (New Measure)	<ul style="list-style-type: none"> * Quantify the additional formaldehyde emissions resulting from the use of Methanol in diesel- or gasoline-powered vehicles. 		
CH#88-T-3 CH#88-T-4 (New Measures)			<ul style="list-style-type: none"> * Further analysis is required to estimate cost effectiveness for each measure.
Tier III (Solvents)	<ul style="list-style-type: none"> * Appendix Q-C, p. 4-2 states a 60% market penetration for solvent use alternative methods, however, no basis is given for this value, p. 4-2. Same comment for 80% value given for solvent reformulation; p. 4-2. Same comment for 80% value for. * Toxicity of substitute solvents has not been assessed (App. IV-C, p. 4-5) * Air quality impacts of afterburners or incinerators has not been assessed (App. IV-C, p. 4-5). 		<ul style="list-style-type: none"> * Economic impacts of solvent substitution or reformulation have not been addressed. (App. IV-C, p. 4-5).

ANALYSIS DEFICIENCIES

TIER I, TIER II AND TIER III CONTROL MEASURES
(continued)

Control Measure	Unidentified Direct Impacts	Unidentified Indirect Impacts	Other
Commercial & Industrial Processes	<ul style="list-style-type: none"> * Identify the basis for the 37% reduction efficiency for ROG in commercial bakeries. p. C-4. * Increases in liquid hazardous wastes have not been quantified. for rubber products. p. C-17. * Give basis for using 68% as NO_x reduction efficiency in Boilers, Steam Generators, and Process Heaters. p. C-30. 	<ul style="list-style-type: none"> * Discuss the impacts due to <u>chickens</u> relocation to avoid the capital equipment costs. p. C-13. * Woodworking: Will proposed control measure affect all operations or only the large ones? High capital equipment cost is involved. p. C-24. * Discuss impacts of methanol if used in <u>small</u> boilers. p. C-26. * Increases in ammonia and associated PM emissions have not been quantified. p. C-31. * Increase in CO emissions have not been quantified. p. C-34. 	
Residential & Public Sectors	<ul style="list-style-type: none"> * Increases in solid/liquid waste have not been quantified. p. D-19 POTW. 		
Agriculture Processes	<ul style="list-style-type: none"> * Emissions due to the transport of manure out of Basin, not quantified. p. E-11. 		
Others	<ul style="list-style-type: none"> * Increases in solid/liquid waste for the treating of gaseous fuels p. F-10 have not been quantified; for liquid fuels p. F-14. * Identify potential capital costs for industry if certain exemptions in Rule 219 are eliminated. 		
Motor Vehicles	<ul style="list-style-type: none"> * Increases in toxic air contaminants (formaldehyde) have not been quantified if Methanol is used as a clean fuel. p. G-20. 		
Transportation System & Land Use	<ul style="list-style-type: none"> * Identify basis for why drive-thru idling CO emissions have been forecasted to drop 1159 t/d in the year 2000. p. H-6. 		* Determine cost effectiveness for CM#88-H-2.

ATTACHMENT C

Development of a PM₁₀ Control Strategy

Edison's Approach to PM₁₀ Attainment in the SoCAB

Develop a PM₁₀ control strategy which:

- Is a realistic solution to the problem
- Ranks control measures according to cost effectiveness
- Utilizes a representative "urban" design value
- Considers implementation of O₃ reduction measures first
- Meets the annual and 24-hour PM₁₀ standards primary particulate, using fugitive dust, hydrocarbon, SO₂, and NO_x controls
- Reduces PM₁₀ at the highest sites using additional local controls

Considerations in Control Strategy Development

Ranking of Control Measures: The PM₁₀ SIP Development Guideline describes ways to estimate control measures needed for attainment. The recommended EPA process uses an iterative procedure which includes determining the most cost-effective set of emission controls to meet the standards. Therefore, after applying those controls needed for ozone attainment (mostly hydrocarbon with some associated NO_x reductions), Edison ranked the District's proposed PM₁₀ control measures according to cost effectiveness. When this was done, utility boiler control ranked 16 of the 17 types of control measures under consideration.

Choice of the Design Site: The SoCAB is classified as a Group 1 area (95% probability of not meeting the PM₁₀ standards). It also qualifies as an "urban scale" area as defined in CFR 40 Part 58 Appendix D (an entire metropolitan area), so the design site for the Basin should be a representative "urban scale" site. Based on this design site requirement, Edison's evaluation of the data shows that Fontana is the highest exceeding "urban scale" site in the SoCAB and is the appropriate design site location. While Rubidoux has recorded higher PM₁₀ levels it is not representative of the SoCAB as a whole. It is representative of a "neighborhood scale" site, a reasonably homogeneous subregion of a few kilometers in size. PM₁₀ levels in the immediate Rubidoux area are strongly influenced by the local phenomena of relatively high fugitive dust and its location upwind of local ammonia sources. Therefore, local controls, in addition to Basin-wide controls may be needed to bring Rubidoux into compliance with the standards.

000059

The Sampling Requirements: Sufficient air sampling has been completed by the District to permit a long-term sampling schedule of every sixth day, according to CFR 40 Part 58.13. However, the requirement for more frequent sampling of the worst expected site has not been met. An intensive monitoring program should, therefore, be implemented for Rubidoux, the worst "neighborhood" site, and Fontana, the worst "urban" site, in the SoCAB.

Sampling Methods: CFR 40 Part 58, Appendix C requires that reference or equivalent method samplers be used to collect ambient PM₁₀ data. Reference samplers are required to be used as soon as approved by EPA. Two samplers have been approved to date. Samplers currently in use by the District do not conform to this requirement. The use of non-reference samplers has resulted in an overestimation of about 28% in ambient PM₁₀. District samplers should be changed as quickly as possible to reference samplers to meet legal requirements and obtain more accurate results.

Determining the Design Value: The EPA's PM₁₀ SIP Development Guideline recommends that the 24-hour design concentration value be determined by a graphical estimation, when sufficient data exists (several years of data). The District has over three years of every sixth day sampling (equivalent to over one year of sampling according to CFR 40 Part 58.13). This should be sufficient ambient air monitoring data to make the design value determination using the graphical method. The design value corresponds to a frequency of 1/365 as read off a graph of the empirical frequency distribution of the data. The result of Edison's evaluation using this method shows that the appropriate design value for the 24-hour standard in the SoCAB is 210 ug/m³. Appendix K of CFR 40 Part 50 provides the method for determining the design value for the annual standard. Accordingly, Edison has determined that the annual arithmetic mean design value is 74.2 ug/m³, based on the 1985-7 average.

Use of Extreme Data in Determining Design Value: As defined in the EPA's Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events, an exceptional event is "... an event that is not expected to recur routinely at a given location, or that is possibly uncontrollable or unrealistic to control through the SIP process." As noted previously, Rubidoux experienced an especially high 24-hour PM₁₀ level. However, this high value should be considered an exceptional event and not used as a design value for three reasons (in addition to Rubidoux's being a "neighborhood scale" site):

- o The high value experienced at Rubidoux is expected to occur only once in 18-20 years, based on the empirical frequency distribution graph previously described, and
- o Examination of all meteorological data since 1980 indicates that there was a unique combination of meteorological factors which resulted in a PM₁₀ level 25% higher on October 29, 1986 than for any other date in the period. This combination of factors, stagnation/stratus cloud cover and surface based

severe inversion conditions, has not occurred at any other time during the period. While the EPA's Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events generally excludes stagnation/inversion conditions from its definition of exceptional events, the data shows this event was so unusual that it should be not be the basis for the 24-hour design value. The District has the discretion to treat the Rubidoux data as exceptional, if it so desires, according to the Guideline, and

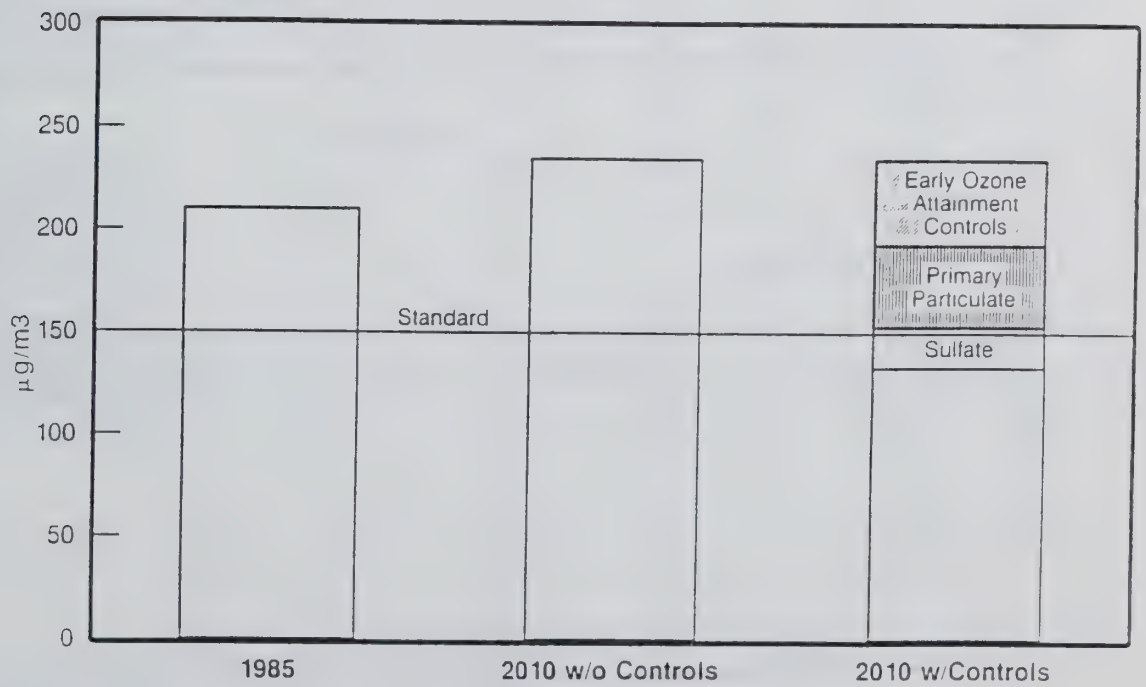
- o The EPA SIP Guideline only suggests using the highest recorded value as the tentative design value when data is sparse. Since the equivalent of over one year's worth of data is available to the District, this suggestion does not apply and an empirical frequency graph is recommended (see Determining the Design Value, above).

Choice of Design Value: It is critical that the design value be appropriately chosen. EPA policy is to require the District to find methods to reduce ambient pollutant levels by at least the amount indicated necessary in the approved SIP, whether or not subsequent information shows that a smaller reduction will allow the standard to be met. For this reason, design values for PM_{10} should be based on the most representative "urban scale" site(s) in the SoCAB. An exceptional site, such as Rubidoux, should be treated using additional local controls, if needed, which address the subarea's specific problems. This will reduce the potential problem of over controlling the region as a whole.

Summary of Results

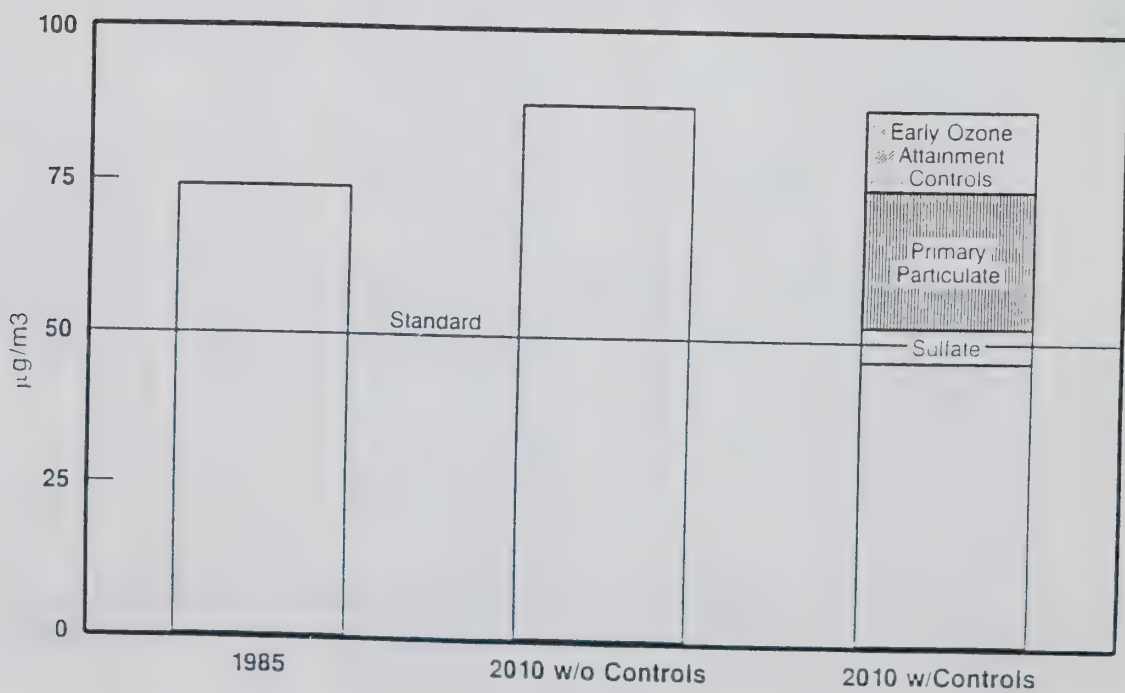
Attached are two graphs illustrating the results of our approach to attainment of the Federal 24 hour and annual PM_{10} standard.

000071

PM₁₀ 24 HOUR STANDARD

000073

PM₁₀ (ANNUAL STANDARD)



APPENDIX SCE 1

TABLE 1

Summary Of Baseline Emissions
For The South Coast Air Basin
(tons/day)

SOURCE CATEGORY	ROG	NOx	SOx	CO	PM*
<u>YEAR 1985</u>					
Residential/Commercial/Services	280	142	13	82	210
Industrial/Manufacturing	310	144	43	108	1,338
On-Road Mobile Sources	578	619	35	4,751	84
Other Mobile Sources	78	135	30	489	13
Total	1,246	1,040	121	5,430	1,645
<u>YEAR 2000</u>					
Residential/Commercial/Services	294	164	16	74	261
Industrial/Manufacturing	356	90	53	123	1,855
On-Road Mobile Sources	257	477	28	3,006	96
Other Mobile Sources	112	173	36	682	15
Total	1,019	904	133	3,885	2,227
Change from 1985 Emissions	-227	-136	+ 12	-1,545	+582
<u>YEAR 2010</u>					
Residential/Commercial/Services	322	184	19	65	287
Industrial/Manufacturing	377	87	52	140	2,011
On-Road Mobile Sources	302	554	31	3,481	111
Other Mobile Sources	129	192	38	781	16
Total	1,130	1,017	140	4,467	2,425
Change from 1985 Emissions	-116	-23	+ 19	-963	+ 780

*PM emissions from paved road dust are listed under stationary sources.

TABLE 2

Summary of Emission Reductions
By Tiers

Source	Pollutants (Tons/Day)				
	ROG	NOx	CO	SOx	PM
Year 2010 Baseline					
Stationary Sources	699	271	205	71	2298
Transportation Sources	431	746	4262	69	128
Total	1130	1017	4467	140	2426
Tier I Reductions					
Stationary Sources	381	188	92	43	1063
Transportation Sources ⁺	236	397	2775	34	49
Total	617	585	2867	77	1112
Year 2010 Remaining Emissions After Tier I	513	432	1600	63	1314
Tier II Reductions					
Stationary Sources	133	25	15	6	208
Transportation Sources ⁺	15	82	305	10	4
Total	148	107	320	16	212
Year 2010 Remaining Emissions After Tier II	365	325	1280	47	1102
Tier III Reductions					
Stationary Sources	107	2 [*]	2 [*]	3 [*]	2 [*]
Transportation Sources ⁺	76	119	1094	14	5
Total	183	121	1096	17	7
Year 2010 Remaining Emissions After Tier III	182	204	184	30	1095

⁺ Emission reductions do not reflect recent changes in on-road mobile sources emission inventory. However, the impact of such changes on emission reductions in mobile source category would be minor and would not change the overall AQMP results.

^{*} Emission reductions are due to controls on transportation sources.

TABLE 3

Summary Of Emissions
By Major Source Categories: 2000 Baseline
(tons/day)

SOURCE CATEGORY	ROG	NO _x	SO _x	CO	PM*	PM10*
<u>Stationary Sources</u>						
Fuel Combustion	23	226	30	108	17	15
Waste Burning	1	1	1	4	1	1
Solvent Use	431	0	0	0	1	1
Petroleum Process Storage & Transfer	77	7	27	4	4	3
Industrial Processes	27	6	8	3	18	12
Miscellaneous Processes	92	14	3	78	2,075	894
Total Stationary Sources	651	254	69	197	2,116	926
<u>Mobile Sources</u>						
On-Road Vehicles	257	477	28	3,006	96	49
Other Mobile	111	173	36	682	15	14
Total Mobile Sources	368	650	64	3,688	111	63
Total	1,019	904	133	3,885	2,227	989

*PM and PM10 emissions from paved road dust are listed under stationary sources.

TABLE 4

Summary Of Emissions
By Major Source Categories: 2010 Baseline
(tons/day)

SOURCE CATEGORY	ROG	NOx	SOx	CO	PM*	PM10*
<u>Stationary Sources</u>						
Fuel Combustion	24	241	31	114	18	15
Waste Burning	1	1	1	5	1	1
Solvent Use	469	-	-	-	1	1
Petroleum Process Storage & Transfer	79	7	27	4	5	3
Industrial Processes	29	7	9	3	19	13
Miscellaneous Processes	97	15	3	79	2,254	973
Total Stationary Sources	699	271	71	205	2,298	1,006
<u>Mobile Sources</u>						
On-Road Vehicles	302	554	31	3,481	111	56
Other Mobile	129	192	38	781	17	15
Total Mobile Sources	431	746	69	4,262	128	71
Total	1,130	1,017	140	4,467	2,426	1,077

*PM and PM10 emissions from paved road dust are listed under stationary sources.

APPENDIX SCE 2

The control strategy proposed by SCE will not bring the Basin into compliance with the federal PM10 standards as proposed in the Draft AQMP. There are many similarities in the two analyses. However, a few important differences exist which greatly affect the results. The control strategy analysis performed by SCE uses District modeling results obtained directly from the Draft AQMP and is, therefore, consistent regarding the relative source contributions to ambient PM10 concentrations. There is a considerable disparity in the **design value** chosen for the 24-hour PM10 standard, which is the base case air quality event used as a starting point to which growth and controls are applied. The District uses actual observed information to determine the 24-hour design value, whereas SCE chose to use a statistical measure to arrive at the design value. SCE also selected a different site as the **design site**. In addition, SCE's estimate of the PM10 emission reduction potential for **fugitive dust control** measures grossly overestimated.

(A) Design Event Selection

Under contract with the District, the Environmental Quality Laboratory (EQL) at California Institute of Technology conducted a special PM10 measurement study during 1986 to gather chemically specified concentrations at a number of locations in the Basin. Five of these locations coincide with the District's PM10 monitoring sites. For regulatory purposes (compliance determination and control strategy design site), it is necessary to use PM10 concentration data collected at a District site, whereas it is useful to include chemically specified information for modeling purposes (to determine source attribution). The monitoring station with the highest 24-hour and highest annual average PM10 concentrations in the SCAB is Rubidoux, where chemically specified data are available for 1986. The peak 24-hour average PM10 concentration observed from every sixth day sampling from 1985 to 1987 occurred at Rubidoux on October 29, 1986. This was a meteorological event in that the secondary PM10 formation potential was very large and dispersion was severely restricted. However, this event does not qualify as a "rare and unusual" event by EPA's definition and cannot be disregarded, as SCE contends, since it is not "an uncontrollable event

caused by natural sources of particulate matter or an event that is not expected to recur at a given location" as specified in CFR Part 50 Appendix K.

The 24-hour design value is the PM₁₀ concentration (and chemical profile) that represents the conditions present during the peak 24-hour PM₁₀ occurrence in the SCAB. The peak 24-hour PM₁₀ event observed on October 29, 1986 satisfies this requirement. The Rubidoux location experiences the highest PM₁₀ concentrations during most of the PM₁₀ "episodes" in the SCAB. The chemistry observed during this event is very representative of the chemistry on most other PM₁₀ "episodes." Therefore, this event is used as the **design event** and the corresponding concentrations (PM₁₀ and chemical species) are considered to be the design values which are to be rolled back to the PM₁₀ standard levels when controls are implemented as specified in the Draft AQMP.

(B) Design Site Selection

SCE chose Fontana as the design site since Rubidoux "...is not representative of the SCAB as a whole." The discussion in SCE's Attachment C regarding the choice of the design site refers to CFR 40 Part 58 Appendix D, which outlines a methodology for selecting locations for monitor placement (network design). The design site and design value for modeling and control strategy evaluation are **NOT** supposed to represent the SCAB as a whole. The design value is supposed to be representative of a peak event in the SCAB. The federal 24-hour PM₁₀ standard requires that a 24-hour average PM₁₀ concentration level not be exceeded (more than three times in three years) **AT ALL LOCATIONS** in the SCAB (including those locations in the SCAB that are not measured, if information indicated that a higher concentration may have existed). The selection of network sites is made such that the monitors represent the surrounding urban, neighborhood, or rural areas. If PM₁₀ concentrations exceed the standard at Rubidoux (and the surrounding community), then the SCAB is not in compliance. Choosing Fontana because it is a "representative urban scale site" is not appropriate. Long Beach could just as well be considered a "representative urban scale site" since it is located in an urban setting within the metropolitan area. The 24-hour PM₁₀ standard was never exceeded in the three-year period of measurement at Long Beach.

It is necessary to select the absolute worst location (highest concentrations) for a design in order site to assure Basin-wide compliance. In fact, the District's control strategy evaluation considers the entire SCAB when determining the effectiveness of controls (although only five locations are modeled for resulting concentrations). If a control measure affected only one location (Rubidoux, for example) then the other locations modeled would not show improvement after application of this measure. Examination of the Tier II control scenario demonstrates that this level of control will bring **ALL** locations to within the level of the 24-hour PM10 standard.

(C) Design Value Computation

SCE employed a statistical approach to arrive at the design value, or "expected highest 24-hour average." This was accomplished by a graphic display method whereby the "design value corresponds to a frequency of 1/365 as read off a graph of the empirical frequency distribution of the data." It is not stated in SCE's Attachment C which underlying distribution is fit to the data, although it is assumed to be the log-normal distribution (since this distribution has graph paper available and is often used to fit air quality data). This procedure is valid only if the data can be shown to be of this type of frequency distribution. However, it is not clear that the log-normal distribution is the proper distribution to use for PM10 concentrations. It is a centralized distribution, meaning that the overwhelming majority of 24-hour concentrations, which are typically much lower than the peak, have a very large influence on the fit of the distribution, determining the shape (i.e., slope) of the curve. If one examines air quality data fit to log-normal distributions, it is usually observed that the data fit well in the central portion of the distribution but not at all well in the tails of the distribution, which are of interest here.

It is much better to assume an **extreme value distribution** (i.e., Weibull or Gumbel distribution) that places more emphasis on the data observed near the upper tail. Neil Frank, in the EPA PM10 Guidelines, recommends fitting an empirical distribution that use the top 10 percent of the data to predict the "expected maximum 24-hour concentration." The District computed 24-hour PM10 design values assuming this distribution, using three years of PM10 data. At some locations, the design value was lower than the peak observed PM10 concentrations, while at other locations it was higher. The design

value at Rubidoux, computed using this method, was 253 micrograms per cubic meter, while the observed 24-hour average PM10 peak was 294 micrograms per cubic meter (before nitrate adjustments).

District staff included a **nitrate adjustment** procedure to remove the bias present in the nitrate measurement results. This was necessary because it was discovered that a large amount of the collected nitrate (approximately 20 percent at Rubidoux) was lost from the filters between the time of collection and laboratory analysis. (This problem has since been corrected by a modification of storage procedures.) This resulted in an underestimate of back nitrate and PM10 concentrations during 1986. District staff carried out an experiment to estimate this bias. The results from this work are documented in the AQMP appendices. SCE did not use this information and is therefore using PM10 and nitrate design values which are lower than those used by the District staff.

(D) Fugitive Dust Control

An additional discrepancy exists between the SCE PM10 analysis and the District's AQMP concerning the PM10 emissions removal efficiency for fugitive dust control. SCE assumed that fugitive dust controls could remove **80 percent** of the airborne PM10 emissions from this area source class. The District's estimates are much lower, in the range of **15 percent to 25 percent** removal for existing technology. SCE did not furnish any documentation to support this extreme level of dust abatement.

(E) Documentation

In the analysis performed by SCE, results from the District's PM10 models were used directly to apportion the PM10 to the source classes responsible. This indicates that the **source apportionment** performed by the SCE is **consistent** with the District's AQMP efforts. The difference in the results of the two analyses stems from different interpretations of how to apply these modeling results. The AQMP is well documented, allowing for a thorough examination of the District's analysis. Documentation for the SCE analysis sufficient to support intermediate and final results has not been supplied to the District, so it is difficult to confirm the values stated in SCE's presentation.

(F) Summary

The District's evaluation of control strategies for PM₁₀ abatement is the result of a multi-year coordinated effort of many researchers. The engineering decisions that were made regarding modeling, design values, and control implications have been considered carefully and are consistent with each other. The analysis performed for PM₁₀ in the Draft AQMP indicates that a level of control corresponding to Tier II controls is required to meet both the federal annual and 24-hour PM₁₀ standards at all locations in the SCAB by 2010.

EPA Region IX is very concerned with SCE's approach in PM₁₀ analysis; the approach technically deficient, and does not follow EPA policy and guideline requirements. Any PM₁₀ SIP submittal based along the lines of the SCE proposed approach would meet with EPA disapproval. Specifically, EPA agrees with the District and disagrees with SCE on the following key issues: (1) EPA regulations and PM₁₀ SIP Development Guidance dictates the use of Rubidoux as the design site, (2) the highest value recorded at Roubidoux should be used as the Basin design value, (3) the PM₁₀ episode that occurred on October 29, 1986, does not meet the criteria of exceptional events and should be used for control strategy planning.

APPENDIX SCE 3

Industries that may be affected by the AQMP may achieve compliance with VOC emission limits by using reformulated adhesives. One possible substitute in adhesive solvent formulations is 1,1,1-trichloroethane (also called methylene chloroform or TCA). A survey of literature indicated TCA may have the potential of producing adverse air contaminants and suggests that there are some human health implications which could result from its use.

Currently, TCA is not classified as a toxic air contaminant under California Health and Safety Code Section 39650, commonly known as the Tanner Act. The Tanner Act specifies the methodology for identifying and controlling toxic air pollutants. TCA has not yet been scheduled for review under this process because it is classified by the California Air Resources Board as a Category Three compound, "substances of concern as potential toxic air pollutants, but for which evidence of adverse health effects is not yet sufficiently established."

To date, the EPA has not found sufficient evidence to regulate this compound as a hazardous air pollutant. The EPA, however, is currently evaluating a recently completed study on the compound's carcinogenicity to determine if that conclusion is still valid. According to EPA's Office of Air Quality Planning and Standards, methyl chloroform is being considered a weak animal carcinogen, but evidence for this designation is inconclusive.

Because more information is needed on the relative potential cancer risk of TCA, a review was made of the potential risks of commonly used solvents that are not considered carcinogenic, but can produce other types of toxic effects including skin and eye irritation. (See Table 5) 1,1,1-trichloroethane and methylene chloride have been reviewed by various governmental agencies as well as by the American Conference of Governmental Industrial Hygienists (ACGIH). The Occupational Safety and Health Administration (OSHA) Time Weighted-Average (TWA) established exposure limits for these solvents at 350 ppm for 1,1,1-trichloroethane and 500 ppm for methylene chloride. Given the values estimates shown in Table 5 it appears that TCA and methylene chloride, when used properly, pose no greater hazard than other commonly used solvents.

Table 5
Comparison of Time-Weighted Average Values
for
1,1,1-Trichloroethane, Methylene Chloride
and Other Compounds Used
in Solvents

Values Solvent	Time-Weighted	Average (TWA)-
	OSHA (ppm)	ACGIH (ppm)
Acetone	1000	750
Ethyl alcohol	1000	1000
Methylene chloride	500	100
Octane	500	300
Stoddard Solvent	500	100
Ethyl acetate	400	400
Ethylethene	400	400
Isoprophyl alcohol	400	400
1,1,1-trichloroethane	350	350
Cyclohexane	300	300
Methyl alcohol	200	200
Methyl ethyl ketone	200	200
Toluene	200	100
Naphtha (coal tar)	100	100
Turpentine	100	100
Xylene	100	100

Source: Dow Chemical Company, 1987

Some solvents used to attain the VOC emission limits that may be required by various short-term control measures in the AQMP may be dangerous to workers, especially if workers are exposed to concentrated vapors or liquids. The primary effects associated with

concentrated vapors or liquids. The primary effects associated with solvents including 1,1,1-trichloroethane and methylene chloride are caused by inhalation and exposure to skin and eyes. Although TCA is the least toxic of the industrial chlorinated solvents, vapor inhalation can cause depression of the central nervous system (dizziness, light-headedness). The TLV suggested by The American Conference of Government Industrial Hygienists (ACGIH) is 350 ppm. Skin exposure to 1,1,1-trichloroethane can cause irritation, pain, blisters, and even burning. Eye exposure may produce irritation, but should not cause serious injury.

As mentioned in the section entitled "Risk of Upset," OSHA specifies the procedures for reducing worker exposure to hazardous substances and identifies the PEL (if it is known) in the 29 series of the CFR. The ACGIH recommends threshold limit values (TLV) as a time weighted average for many hazardous materials. The TLV is considered the maximum exposure a worker can endure under normal working conditions without experiencing any harmful health effects. TLVs are often used by OSHA to determine the PELs. The DOT specifies the procedures for safely transporting hazardous substances, as well as the procedures to follow in case of accidental spills during transport in the 49-CFR series of regulations (parts 100 through 177).

In its Occupational and Health Guidelines, OSHA (1978) provides worker safety in the following areas: personal protective equipment, prevention and response, and emergency first aid procedures. For example, to reduce exposure to a variety of solvent vapors, OSHA (1978) requires engineering controls to reduce environmental concentrations to permissible exposure levels (PEL). Respirators must be provided in case the PELs are exceeded. These respirators must be approved by the Mine Safety and Health Administration or NIOSH. In addition to respirators, a complete respiratory protection program should be instituted which includes regular training, maintenance, inspection, cleaning, and evaluation.

Employees should also be provided with and required to use impervious clothing, gloves, face shields (eight-inch minimum), and other protective clothing necessary to prevent repeated or prolonged skin contact with liquid solvents. Employees should be provided with and required to use splash-proof goggles where liquid solvents may contact the eyes.

In the event of a spill or leak in an industrial setting, persons not wearing protective equipment and clothing should be restricted from spill areas until cleanup has been completed. An attempt should be made to ventilate the spill area and to remove all ignition sources.

The above regulations and recommendations provide comprehensive measures which reduce to insignificance the impacts to human health that could occur when handling hazardous materials.

APPENDIX SCE 4

Carbon adsorption technology is an economical method of controlling emissions containing organic compounds. Depending on the application, carbon adsorbers can achieve a removal efficiency of essentially 100 percent until breakthrough occurs. Carbon adsorption is commercially available and has been used by the aerospace industry, the electrical component production industry, and various spray coating industries. Carbon used to remove organics with a relatively low molecular weight, i.e., with fewer than 9 carbon atoms, can last between 5 - 10 years (Taback et al., 1983).

Carbon used for carbon adsorption eventually becomes saturated with solvent materials and is either disposed of or regenerated (discussed above). Regeneration is accomplished by raising the temperature of the carbon, evacuating the bed, or both. Steam is the most widely used regenerate used to absorb the organic components (Taback et al., 1983). The resulting steam/solvent mixture is then vented to a condenser where it is cooled to the liquid phase. Since organic substances tend to be nonaqueous, most of the organic material can be separated from the water by gravity or distillation, although traces of solvent remain in the water. The organic material may then be recycled to the production process or disposed of.

If water is used as a regenerate, the resulting contaminated waste water may create water quality impacts. In addition, if the contaminated waste water does not receive appropriate on-site treatment before being released into public sewers, publicly owned treatment works may be significantly affected.

Any facility discharging contaminated wastewater must meet applicable federal, state, or local laws or regulations concerning regulatory limits for toxic substances discharged into public sewers. The EPA sets category limits for discharging waste water containing toxics into public sewers. In some cases, California uses the federal limits instead of setting a different state standard. There are separate (different) limits for total toxic organics and inorganics. Benzene, a volatile organic compound, is of greatest concern in the Basin as its ambient atmospheric concentrations are greater than for all of the other toxics being regulated by the Proposed Rules (C. Lum., pers. com.), except for hexavalent chrome (an inorganic metal).

The Total Toxics Limits (as established by EPA) are 1.37 to 4.57 mg/liter of discharge water. This range is the total allowable regulatory limit for all contaminated waste water discharged to public sewers. Because of their inherent toxicity of the nine substances regulated by the Proposed Rules, the regulatory limit for them is 1.37 mg/liter, the lowest end of the allowable range.

In addition to the above regulatory requirements, any facility using control equipment affecting water quality, e.g., on-site equipment used for regenerating spent carbon, must receive a permit to operate from the local sanitation district. In cases where facilities modify their equipment or install add-on controls, owner/operators must notify the local sanitation district to have their existing permit reviewed and modified. A new permit for existing equipment is not required.

If the carbon is sent off-site for regeneration by a treatment, storage, and disposal facility (TSDF), the off-site facilities are subject to even stricter regulatory limits for contaminated waste water treatment. The regulatory waste water discharge limit for wastewater from carbon regeneration by TSDFs is 1 mg/liter of total toxic organics. To ensure compliance with the 1 mg/liter limit, discharge waste water is monitored using EPA test methods 601 or 602 (C. Lum., pers. com.).

Other alternatives for reducing water quality impacts from regenerating spent carbon are changing or altering the carbon adsorption system itself, or changing the way in which the carbon is regenerated. For example, there is currently available a modified carbon adsorption system, referred to here as a hybrid system, that operates much like the typical carbon adsorption system except that, instead of condensing the steam/organics mixture and separating the organic components from the water, the steam/organic mixture is vented to a combustion source where it is destroyed by incineration. The advantage of this system is that it reduces water quality impacts, but it may exacerbate air quality impacts from carbon regeneration because incineration provides an additional source of combustion emissions.

Another alternative for regenerating spent carbon that could reduce water quality impacts is to regenerate it using a noncondensable or inert gas. The process is similar to steam regeneration where the gas

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is heated and injected into the carbon bed, resulting in a gaseous organic mixture. Condensation of virtually all organics in the gaseous stream is possible if the stream is subsequently cooled to a low enough temperature.

Western Oil and Gas Association

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(818) 545-4105

October 27, 1988

Dr. James Lents
Executive Officer
South Coast Air Quality Management
District
9150 Flair Drive
El Monte, CA 91731

Attention: Suzanne Reed

Re: 1988 Revision to the Air Quality Management Plan
and the Draft Environmental Impact Report

Dear Dr. Lents:

The Western Oil and Gas Association ("WOGA") is submitting the following comments and attachments on the 1988 Air Quality Management Plan ("AQMP") and the Draft Environmental Impact Report ("DEIR"). WOGA supports the goals set forth in the proposed AQMP but believes that an alternative strategy is available that can attain ambient air quality standards in a more cost-effective way, with fewer adverse environmental impacts, fewer adverse economic and socio-economic impacts and which may result in greater improvements in air quality in a shorter period of time.

In our general comments, we discuss the alternative strategy we are proposing. WOGA believes this alternative approach is preferable and should have been included in the DEIR as a project alternative so that it could be compared with the District's proposal. We will also point out a few of the many adverse environmental impacts associated with the proposed AQMP that were inadequately discussed in the DEIR. The five attachments included with this letter will provide additional information as noted below.

WOGA is proposing an alternative strategy which emphasizes reactive organic gas ("ROG") reductions and defers further nitrogen oxide ("NOx") controls until: 1) the ROG to NOx ratio is significantly reduced, and 2) the public health benefit associated with ROG emission reductions has been maximized. This is not really a "ROG-only" project alternative

RESPONSES TO COMMENTS WOGA (10/27/88) COMMENT LETTER #2

2-1

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Alternative emissions reduction strategies have been addressed at the request of SCE and WOGA. These alternatives, proposed for attaining ambient air quality standards, have been evaluated in Attachments 1 and 2. Based on this evaluation, the District concluded that ambient air quality standards cannot be attained by either the WOGA or SCE strategies. Adverse impacts would be reduced by these alternatives (including economic and socioeconomic impacts), and earlier improvements identified for ozone will occur but are not as dramatic as claimed by WOGA and SCE.

2-2

Your comment is noted and will be forward to the District Board for consideration in making its decision on the AQMP. The WOGA alternative strategy has been incorporated into the Final EIR and has been compared with the District's proposed plan and seven (7) other alternatives.

2-3

Your comment is noted. The WOGA Alternative Strategy has been evaluated by the District Staff and the conclusions are provided in Attachments 1 and 2.

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but really a "maximize ROG/minimize NOx alternative." WOGA recognizes that many ROG controls necessarily and unavoidably entail concurrent NOx control (e.g., transportation control measures). The objective of our alternative is to maximize the amount of ROG control while minimizing the amount of NOx control. Thus, WOGA proposes control measures that are "mostly ROG" in nature and defers those that are "mostly NOx." A general outline of the strategy is set forth in Attachment C. Specific details and the modeling to support the alternative will be ready in three months.

An important point to note is that the concept of stressing ROG control is not a new one. The District, the California Air Resources Board ("CARB") and the Environmental Protection Agency ("EPA") all recognize that NOx reductions will have an adverse impact on strategies to reduce ambient ozone, and EPA has directed that the role of NOx be carefully evaluated in developing ozone control plans to ensure that its control does not impede the plans effectiveness. Thus, the analysis we suggest must be done in order for the plan to be approved.

Turning now to the DEIR, a careful reading shows that both air quality and non-air quality environmental impacts have been overlooked or discussed in such a superficial manner as to be essentially meaningless. A project of the importance of the AQMP requires better analysis. The following are just a few of the many examples where issues of extreme importance were either not discussed or incompletely analyzed:

1. The impact of NOx emission control on ozone attainment.
2. The failure to include project alternatives that demonstrate attainment.
3. The impact on public health and safety of wide-spread use of methanol.
4. The secondary impacts of electrification, including the adverse environmental impacts of additional power plants on areas out of the South Coast Air Basin.
5. Unrealistic timeframes proposed for implementing certain control measures, given the fact that agencies other than the District must adopt certain proposed control measures and major lifestyles changes will be necessary to accomplish others.

2-4

The role of NOx reductions has been further evaluated by the District in response to SCE and WSPA (formerly Western Oil and Gas Association, WOGA) recommendations for a ROG- focused emission control strategy. A detailed response is provided in Attachments 1 and 2. In summary, the District staff conducted several additional modeling scenarios including the SCE and WSPA alternatives (using District emissions reduction estimates for control measures in each alternative). The model results revealed that SCE and WSPA approaches cannot meet the federal ozone standard at any time. The AQMP Tier I and II controls also fail to meet the standard, but with anticipated Tier III reductions the standards can be met. This modeling effort should fulfill the EPA requirement for demonstrating that ozone reductions will not be impeded with concurrent ROG - NOx reductions.

The relationship between ozone and NOx is complicated by the fact that NOx both forms and destroys ozone at different stages of the photochemical cycle. Localized high NO concentrations inhibit the formation of ozone due to NO-O3 titrations and the depletion of NO2 concentrations due to the presence of organic radicals. Although this behavior has been observed and verified in many studies, there is evidence that the inhibitory effect of NO on ozone formation is not a true inhibition but only a delay (see, for example, Seinfeld, 1985 Air Pollution: Physical and Chemical Fundamentals, McGraw Hill). The photochemical formation of ozone is generally suppressed by high NOx concentrations in the ambient air as air parcels travel from the coastal to inland areas until the NOx concentrations are sufficiently dispersed or diluted.

The overall perturbation of ozone concentrations due to NOx controls depends on the specific meteorology and the mix of ROG and NOx in the ambient air. It is the ROG/NOx ratio in ambient air which determines how effectively NOx scavenges ozone. However, it is important to note that the NOx scavenging effect is included in the complex chemical mechanism built into the UAM model used by the District to predict ozone air quality.

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1. The impact of NOx emission control on ozone attainment.
2. The failure to include project alternatives that demonstrate attainment.
3. The impact on public health and safety of widespread use of methanol.
4. The secondary impacts of electrification, including the adverse environmental impacts of additional power plants on areas out of the South Coast Air Basin.
5. Unrealistic timeframes proposed for implementing certain control measures, given the fact that agencies other than the District must adopt certain proposed control measures and major lifestyles changes will be necessary to accomplish others.

2-5

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Additional data to support conclusions, particularly those related to air quality, have been provided in the December, 1988 EIR and this Addendum. As explained in the Executive Summary (part of this Addendum under separate cover), the AQMP is similar to a General Plan and the depth of information and degree of detail in the evaluation are, of necessity, very general. The focus of the impact analysis is most often qualitative (not quantitative) and reflects the level of information available at this tier of review. Quantification has been provided where feasible.

2-6

This issue is addressed in Attachment 2 and in the response to comment 2-5. Modeling has been conducted to evaluate the role of NOx emission control on ozone attainment, and the modeling shows the AQMP is the only alternative that provides a path to attainment.

2-7

Attachments 1 and 2 provide an expanded discussion of alternatives including SCE and WSPA strategies, neither of which demonstrate attainment. It is not necessary to predetermine (as implied in this comment) that alternatives will demonstrate attainment. It is appropriate to test a reasonable range of alternatives to determine their impacts, including whether they can ultimately lead to attainment. This has been done.

2-8

The public health impacts from widespread use of methanol are addressed in the December, 1988 EIR text, Appendix IV-E, and in the response provided below. In summary, methanol poses a new and different health risk relative to gasoline but can be mitigated to an acceptable level of impact through implementation of proper handling procedures, protective devices, and facilities. The following information is also provided:

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1. The impact of NOx emission control on ozone attainment.
2. The failure to include project alternatives that demonstrate attainment.
3. The impact on public health and safety of wide-spread use of methanol.
4. The secondary impacts of electrification, including the adverse environmental impacts of additional power plants on areas out of the South Coast Air Basin.
5. Unrealistic timeframes proposed for implementing certain control measures, given the fact that agencies other than the District must adopt certain proposed control measures and major lifestyles changes will be necessary to accomplish others.

Methanol is completely soluble in water; therefore, a very large spill could possibly reach an aquifer where it would disperse rapidly. Methanol has no strong odor or taste so it could reach toxic levels in the drinking water supply before being detected.

In the event of an accidental release of methanol, contamination of an underground water supply is unlikely unless the aquifer is small, the spill very large, and the well drawing the water is very close to the spill site (D'Eliscu, 1987).

Increased use of methanol may affect local sanitation districts because methanol could get into the water supply as a result of accidents during transport or handling. Initially, the magnitude of these impacts is expected to be small because the demand for methanol is expected to increase slowly.

As a hazardous substance, methanol is tightly regulated by the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (DOT). OSHA specifies the procedures required for using and storing methanol, as well as the permissible exposure level (PEL) of methanol to workers in the 29 series of the Code of Federal Regulations (CFR) (see also NIOSH/OSHA, 1981). The DOT specifies the procedures for safely transporting methanol, as well as the procedures to follow in case of accidental spills during transport, in the 49 CFR series of regulations. The EPA in the 40 CFR series and the DOT in the 49 CFR series specify the requirements for proper labeling and placarding of hazardous substances. In addition to the above regulations, the American National Standards Institute (ANSI, 1981) recommends safety procedures for handling and storing methanol, and the American Conference of Government Industrial Hygienists (ACGIH) recommends a threshold limit value (TLV) as a time weighted average (TWA). The TLV is considered the maximum exposure a worker can endure under normal working conditions without experiencing any harmful health effects. TLVs are often used by OSHA to determine the PELs. When taken together, the above regulations and recommendations provide comprehensive measures to reduce hazards that could occur when handling methanol

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2-3 but really a "maximize ROG/minimize NOx alternative." WOGA recognizes that many ROG controls necessarily and unavoidably entail concurrent NOx control (e.g., transportation control measures). The objective of our alternative is to maximize the amount of ROG control while minimizing the amount of NOx control. Thus, WOGA proposes control measures that are "mostly ROG" in nature and defers those that are "mostly NOx." A general outline of the strategy is set forth in Attachment C. Specific details and the modeling to support the alternative will be ready in three months.

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2-5 Turning now to the DEIR, a careful reading shows that both air quality and non-air quality environmental impacts have been overlooked or discussed in such a superficial manner as to be essentially meaningless. A project of the importance of the AQMP requires better analysis. The following are just a few of the many examples where issues of extreme importance were either not discussed or incompletely analyzed:

- 2-6 1. The impact of NOx emission control on ozone attainment.
- 2-7 2. The failure to include project alternatives that demonstrate attainment.
- 2-8 3. The impact on public health and safety of wide-spread use of methanol.
- 2-9 4. The secondary impacts of electrification, including the adverse environmental impacts of additional power plants on areas out of the South Coast Air Basin.
- 2-10 5. Unrealistic timeframes proposed for implementing certain control measures, given the fact that agencies other than the District must adopt certain proposed control measures and major lifestyles changes will be necessary to accomplish others.

Before a methanol vehicle is sold in the Basin it must meet the Air Resources Board's (ARB) emission standards. The ARB is developing emission standards for the use of methanol, including a formaldehyde specific standard which would not allow emissions of formaldehyde to exceed those produced by conventional gasoline (passenger car)/diesel (trucks) vehicles. The SCAQMD is working with the EPA and ARB to test methanol emissions including formaldehyde emissions.

Studies concerning methanol are being completed and are in progress for numerous topics including health effects of automotive methanol vapors and formaldehyde produced by methanol, cancer epidemiology of formaldehyde, methanol flammability, safety considerations for storing, transporting, and dispensing methanol, and potential groundwater contamination of methanol fuels. The results of these analyses will be considered during subsequent rule-making activity

2-9

As demonstrated below, the out-of-Basin power requirements are substantially reduced based on further evaluation by the District in cooperation with the California Energy Commission.

The electrification strategy has been refined and based in new projections; this strategy now requires less capacity and energy than previously forecasted. Below are the electrification measures, by tier, and their forecasted energy and capacity needs.

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SUMMARY OF ENERGY AND CAPACITY NEEDS FOR TIERS I, II AND III

TIER	MEASURE	ENERGY (GWH/YR)	CAPACITY (MW)	
			DAY	NIGHT
TIER I	IC Engines Utility Equipment Cold Ironing Transit Buses Rail Electrification			
TOTAL		2,500	300	200
TIER II	50% Industrial Electrification 20% Passenger EV			
TOTAL		18,000	1,400	2,700
TIER III	100% Passenger EV			
TOTAL OF ALL TIERS		60,500	4,400	9,200

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To meet the requirements of the revised electrification strategy, a new electricity supply matrix has been developed:

REVISED ELECTRICITY SUPPLY MATRIX

SOURCE OF SUPPLY	CAPACITY (MW)	
	DAY	NIGHT

IN BASIN		
Conservation	2,800	
Solar Power	1,500 - 2,000	
Solar/Fuel Cell EVs	300 - 1,000	900 - 2,600
Off-peak Excess		4,000 - 5,000
Fuel Cells		500 - 1,000
Repowering	1,000 - 2,000	
OUT-OF-BASIN		
Hydropower		500 - 1,500
TOTAL SUPPLY	4,600 - 5,800	6,900 - 12,000

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The revised electricity supply matrix shows that the additional capacity projected should be sufficient to meet the projected additional demand from the electrification program.

The revised electricity supply matrix does not rely on additional out-of-Basin generation resources, except for 500 to 1,000 MW of assumed hydropower to meet nighttime demands. The source of this hydropower capacity is likely to be the Pacific Northwest or Canada. Additional transmission infrastructure may be needed to deliver this supply to the Basin. Though the specific amounts of capacity available from each generation source may change, it is expected that the total capacity needed can be provided. If one generation source does not achieve as much capacity as indicated in the supply matrix, further development of the other resources is expected to be able to contribute the remainder.

However, should additional fossil fuel or other power plants have to be constructed to meet future electrification requirements, the following secondary impacts could occur, whether in or outside the Basin:

- a. exposure to geotechnical hazards or soil engineering constraints: fully mitigable through siting criteria and engineering design.
- b. loss of agriculturally important soil: depending on location this may be an unavoidable significant adverse impact.
- c. overdraft of available water supplies: can be avoided by site alternatives, but may result in significant overdraft of water resources in isolated areas.

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- d. surface runoff and flood hazards: significant impact avoidable through siting and engineering measures.
- e. water quality degradation: regulatory programs and engineering solutions are available to control potential adverse water quality impacts to a non-significant level.
- f. biological resource impacts: siting alternatives may mitigate potentially significant impacts, but the potential exists for new power plants and support facilities (such as transmission lines or support infrastructure (water supply lines) to significantly impact biological resources.
- g. air quality degradation: emission controls are adequate to allow construction of fossil fuel plants in attainment areas, which can ensure ambient air quality concentrations at levels adequate to protect public health. (Note that locations near Class I Visibility Protection areas may result in significant adverse impacts). New plants may not be able to be constructed in non-attainment areas.
- h. land use conflicts: alternative sites and/or acquisition of adequate buffer areas can effectively mitigate potential land use conflicts.
- i. cultural resource impacts: in all but the most exceptional cases, recovering and recollection of resources discovered can serve as mitigation. For exception cultural resources, the potential exists for significant impact if alternative sites are not available.

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- j. public utilities and service infrastructure: with adequate funding, infrastructure systems, including transportation systems, can be expanded to meet the demands of power plants. Expansion of systems that require additional land area (transmission lines, roads, water lines, etc.) may have secondary impacts on site specific resources (water resources, biological resources, geologic restraints).
- k. Aesthetics: certain locations may incur significant alterations of visual resources (scenic views) when alternative sites are not available. Impacts from support facilities (transmission lines, water lines, roads, etc.) could also cause unavoidably significant changes in visual resources.

The above analysis forecasts the general type of direct and indirect impacts that can be caused by constructing new power plants or other facilities (such as disposal sites or methanol manufacturing facilities). Because no specific locations are or can be identified at this time, the above level of analysis is judged to be appropriate for characterizing potential impacts from proposed AQMP control measures. As planning for new power plants proceeds, site-specific impacts and mitigation measures can and must be identified. If such power plants are constructed, the analyses above and in the December, 1988 EIR indicate that several significant and unavoidable adverse impacts (both direct and secondary) can occur.

The District recognizes that implementation time frames will be difficult to meet, but they are not considered unrealistic. The AQMP offers proposals for the attainment of federal air quality standards. These proposals are not cast in stone, but are part of a dynamic process that will be revised periodically to accommodate the changing circumstances of the region.

It is not the intent of the AQMP to challenge or usurp the authority of government at any level. A number of AQMP proposals request that local governments act as agents of change to bring about the improvements in air quality needed in the South Coast Air Basin to achieve federal standards. Many of these measures, included in the 1979 and 1982 plans and supported at that time by local government, were developed with the intent that local jurisdictions enter into a partnership with the District. Transportation/circulation, land use,

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and energy conservation are not only the authority but the responsibility of local government; SB 151 (Presley) and AB 2595 (Sher) specifically authorize the District to control transportation and indirect sources. By adopting local ordinances in support of transportation land use and energy conservation, local governments can make a significant contribution to the attainment of air quality goals. In essence, AQMP proposals have been developed to serve as a guide to local governments and to enable them to set examples for their constituents regarding sound air quality management practices. The District encourages an ongoing dialogue with elected officials to help overcome any existing impediments to implementation.

Implementation assumptions reflect the philosophy that control measures which affect specific jurisdictions are more effectively implemented by those jurisdictions. This is particularly the case for control measures slated for adoption by local governments. The impact of each of these control measures is quantifiable in terms of specific emissions reduction which, in turn, are expected to have a positive effect on human health and welfare. Standards for implementation and attainment include the adoption of local ordinances which may be tailored to meet the specific needs and characteristics of each local jurisdiction.

The AQMP identified control measures and outlined a set of specific actions in three (3) phases with specific dates for local government to follow. This provides a realistic picture of the region's clean-up needs and a guideline plan to implement the big picture. The South Coast Air Basin cannot achieve clean air unless other levels of government take action. Regarding the authority of the District over state and federal government activities, the District continues to look to government at these levels for ongoing support of the control measures outlined in the AQMP. Although federal and state Clean Air Acts mandate that the District attain their respective clean air standards, both levels of government are directly responsible for the control of emissions from a number of other sources beyond the authority of the District for example automobiles, interstate trucking, aircraft, and ships. These sources contribute significantly to air quality problems experienced in the South Coast Air Basin. The AQMP creates a structure within which federal state and local

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governments will have to participate in order to control those sources for which they have statutory authority.

In the absence of prior experience with implementing many of the recommended control measures, it was necessary to make implementation assumptions on the basis outlined in paragraph three above. As actual experience with specific technologies and control measures is obtained, the necessary emphasis and resources to accomplish implementation can be shifted, or the Plan can be modified accordingly.

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6. The apparent double counting of emission reductions.

In addition to these comments, WOGA is submitting five attachments (A-E) which amplify our general comments and raise additional, more specific concerns with the DEIR. The documents attached, each of which is described below, include the following:

- A. Comments on the Draft Environmental Impact Report ("DEIR") prepared for the South Coast Air Quality Management Plan, ICF Technology, Inc.;
- B. Comments on South Coast Air Quality Management District: Air Quality Management Plan, Western Oil and Gas Association;
- C. Evaluation of Project Alternatives (SCAQMD AQMP DEIR, Chapter 5);
- D. An Analysis of the SCAQMD PM10 Control Strategy, George Lauer, Ph.D., Environmental Sciences Atlantic Richfield, Inc.; and
- E. CEQA Requirements and the Draft EIR.

Attachment A is ICF Technology, Inc.'s review of the DEIR. In addition to the major deficiencies noted above, the ICF report shows that in general the DEIR is an extremely superficial review of the environmental impacts associated with the AQMP and does not serve the purpose for which it was intended. It does not provide the Governing Board or the public with adequate information on the environmental benefits of the proposed AQMP or the adverse environmental impacts. ICF finds that the document fails to quantitatively analyze the plan's expected improvements in air quality or to take into account the synergistic impacts of various control measures. It also fails to quantitatively address adverse impacts from air pollution control equipment, including increased generation of hazardous waste and wastewater and the ability of the public and private sections to deal with these increases. Also, the DEIR lacks supporting documentation regarding reference sources and the basis for assumptions and various models used. The examples given are but a few of the deficiencies noted by ICF.

2-11

The data in certain tables in the Draft EIR (Tables 2-2 through 2-5) were updated in the December, 1988 EIR. Emissions reduction were reviewed, and no double-counting occurred. Please refer to the response for comment 3-45.

2-12

The Executive Summary Introduction discusses the level of detail required for environmental impact evaluations for a planning document (such as the AQMP) and its associated programmatic EIR. In summary, each AQMP environmental issue has been addressed at a level of detail consistent with the database available. The only legitimate evaluation for many issues is a very general one because forecasting specific potential impacts would lead to an unacceptable level of speculation. Values are assigned and forecasts quantified where feasible. Under the programmatic/tiering concept, more detailed impact evaluation will be presented during rule-making or implementation of specific control measures outlined in the AQMP.

2-13

The issue of forecasting secondary impacts is partially addressed in response to comment 2-12 above. For example, it is not possible to quantify specific quantities of hazardous wastes that will be generated by the control measures at this time. It is too early in the process to define all the consequences of future rules: such as the optional equipment or measures to achieve emissions reduction by a specific measure; the volume of waste that each piece of equipment might generate; the on-site treatment alternatives available to convert a hazardous waste to a non-hazardous waste (such as chemical treatment or fixation); and finally, the net volume of hazardous waste resulting from not only one, but all control measures. This is an inappropriate stage of review to attempt such specific forecasts.

However, it is acknowledged that many of the recommended control measures will increase the generation of hazardous waste. Increased waste volume produces the following potential secondary impacts:

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- a. An unquantifiable increase in handling and transport accident risk. (This is somewhat less significant than appears on the surface, since beginning in 1990 wastes must be pretreated and solidified).
- b. Increased demand for hazardous waste treatment or landfill capacity.
- c. Expansion of existing hazardous waste landfills will impact site-specific natural resources and man-made support systems (roads, water, and utility systems).

Although substantial mitigation can and must be effected during the waste facility siting process, the potential exists for significant adverse impacts to occur from expanding existing sites and/or siting new hazardous waste landfill or treatment capacity. Potential risks from handling/transportation accidents due to increased waste generated by control measure implementation can also be mitigated to a great extent, but the unpredictable nature of such waste poses a potential unmitigated significant adverse impact.

2-14

Substantial references, citations, and source material are provided in the December, 1988 EIR and this Addendum. Some additional information supporting the findings in the EIR has been added in the responses to comments.

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Attachment B reviews each control measure that directly impacts petroleum operations in the South Coast Air Basin. While WOGA generally supports the Tier 1 ROG-primarily control measures, questions are raised with regard to several control measures as to the technological feasibility of the level of control sought, the lack of demonstrated benefits to air quality and/or the adverse impacts on the environment. In addition, consistent with our proposed alternative strategy, WOGA recommends deferring proposed further NOx controls until implementation of all feasible ROG controls as the most expedient and efficient means of reducing ambient ozone concentrations.

Attachment C sets forth WOGA's alternative strategy and discusses the failure of the DEIR to adequately discuss and model a ROG-primarily strategy that was briefly discussed in Chapters 1 and 2 of the DEIR but not considered as an alternative in Chapter 5 of the DEIR. WOGA requests that Chapter 5 be revised to include the WOGA strategy so that the improvements in ambient air quality from such a proposal can be compared to the improvements from the proposed AQMP and the other project alternatives. Chapter 5 should also compare the adverse economic, socio-economic and environmental impacts of each alternative.

Attachment D discusses the impact of deferring further NOx reductions on PM10 attainment. The report concludes that the conversion rate of NO to NOx will decrease as the District controls ozone by reducing ROG. Thus, an optimal ozone attainment strategy of reducing ROG emissions -- leaving NOx emissions at current levels -- will not harm the PM10 attainment effort.

Attachment E discusses the requirements of CEQA and the types of analyses that should have been included in the DEIR.

In summary, WOGA suggests that the DEIR be revised to address the impact of further NOx reductions on ozone attainment and that the DEIR analyze and compare WOGA's proposed strategy of maximizing ROG/minimizing NOx reductions to the approach taken in the AQMP. In addition, it is clear

2-15

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to Attachment 2 of this Addendum for a complete discussion of the ROG/NOx issue, to Attachment 1 for a relative comparison of this alternative strategy with the other alternatives, and to the response to comment 2-4.

2-16

Attachment 1 provides a summary comparison of all alternatives including that proposed by SCE and WSPA. More detailed data on these strategies is contained in Attachment 2 as requested.

2-17

The District's modeling indicates that leaving NOx emissions at current levels will prevent PM10 from reaching attainment. Information provided in Attachments 1 and 2 support this conclusion.

The objective of the AQMP modeling approach is to assess the effect of controls on air quality. The changes in atmospheric conditions affecting aerosol formation potential are not as important to PM10 concentrations as the changes in emission rates from the major sources of PM10. Sensitivity tests on the nitrate dispersion model have confirmed the fact that large changes in ambient ozone concentrations have little effect on the resulting nitrate formation. The omission of the effect of ozone concentration changes on secondary transformation rates will add to the uncertainty of the models results. This will cause the transformation rate to be over-predicted for a handful of hours, and is therefore a minor conservative factor which is included in the results. Therefore, the District staff believes that the omission of ozone changes would not significantly change the results of source apportionment for PM10 nitrates.

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that in order for the DEIR to be meaningful and to comply with the requirements of CEQA, a much more detailed, quantitative and qualitative analysis of the environmental, economic and society-economic impacts of the AQMP must be conducted.

WOGA appreciates the opportunity to offer these comments. If you have any questions, please contact Michael Wang, Environmental Manager (818) 545-4105.

Very truly yours,


Douglas F. Henderson *TAH*
Executive Director

cc: Mark Pisano

Further, the dispersion model was used to predict long-term pollutant concentration (monthly and annual averages) and is therefore not very sensitive to the effect of altering ozone concentrations, which are typically high during only a small fraction of the modeled hours. While it is accepted that controls which greatly reduce ozone concentrations will have some effect on the secondary PM10 formation potential, and that modeling for future year PM10 concentrations should include these changes in atmospheric conditions, this is not practical for this AQMP modeling approach. The PM10 model development and application were performed long before ozone model results were available. Even if the ozone results were available, these results would only consider a single episode, and it would be nearly impossible to translate into concentration estimates for every hour of the year.

In addition, the set-up and computer time required to run many additional future scenario models runs (for example, considering controls which affect the spatial distribution of emissions, such as NOx emission changes due to changes in traffic patterns) is beyond the scope of the present study. One of the major reasons this type of model was used is that it can provide long-term pollutant concentration predictions inexpensively. More sophisticated models could have been developed including many non-linear processes but these models could not have been applied for long-term averages because the time step in the model would have to be shortened to approximately one minute instead of one hour. This would require an extensive amount of computer time that is beyond District capability.

2-18

The information contained in this Addendum provides the requested additions and analyses to the extent feasible.

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ATTACHMENT A

Western Oil and Gas Association
Comments
on
Draft Environmental Impact Report (DEIR) Prepared
For the South Coast Air Quality Management Plan

October 27, 1988

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COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) PREPARED FOR THE
SCAQMD AIR QUALITY MANAGEMENT PLAN

EXECUTIVE SUMMARY

The results of review of the draft environmental impact report (DEIR) prepared regarding the SCAQMD Air Quality Management Plan are organized into general and specific comments. General comments summarize our review of the documents and specific comments detail identified concerns regarding specific control measures and the adequacy of impact analysis.

There are several points made in this review that we wish to emphasize:

- 2-19
 - It appears that the AQMP may have not considered the synergistic or antagonistic effects of imposing multiple control measures when evaluating emission reduction potential (and predicting the resulting reductions in ambient pollutant concentrations). If so, the analysis of impacts as presented in the DEIR may be inaccurate.
- 2-20
 - It is also not clear from the DEIR that control measures which induce massive changes in lifestyle (transportation, jobs, housing, population) or measures that must be implemented in cooperation with other jurisdictions (FAA, Coast Guard, state and local governments) can be realistically relied upon to produce the anticipated emission reductions within the required time frame.
- 2-21
 - No analysis of alternatives as required under CEQA was provided. The DEIR presents "alternatives" that fail to meet the goals of the project, namely attainment of federal ambient air quality standards within the required time frame. An appropriate analysis of alternatives should evaluate other combinations of control measures that are also capable of demonstrating attainment within that time frame.
- 2-22
 - The analysis of cross-media pollution impacts associated with specific control measures is not quantitatively or realistically addressed.
- 2-23
 - Since mobile sources appear to be the dominant contributor to all emission categories in the Basin except particulate matter, we support the implementation of a rigorous vehicle inspection and maintenance program. Such a program would require the full cooperation of the California Air Resources Board.
- 2-24
 - More emphasis should be given in the document to the public health and safety impacts associated with use of methanol fuel in mobile and stationary combustion sources.
- 2-25
 - The analysis presented in the DEIR does not take into account the potential for oxides of nitrogen to scavenge ozone from the atmosphere and that, under certain conditions, imposition of NOx control measures may actually exacerbate existing attainment problems.

2-19

To the extent feasible, synergistic/antagonistic effects of multiple control measures on emission reduction potential were identified in the December, 1988 EIR. The data is contained in Appendix II-B and its addenda; Appendix III-C provides background information on the methodology of emission forecasts. It is possible that some synergistic/antagonistic effects were not accounted for, but without specific references to such cases, the future emissions reduction projections contained in the December, 1988 EIR represent the best database available for impact forecasts. More important, the level of accuracy is judged adequate for planning purposes and will be refined when future control measures are reviewed for implementation. Please also refer to the response for comment 3-45.

2-20

Please refer to the response for comment 2-10. As noted, the District has developed the AQMP realizing that a bold, collective effort will be required to implement all control measures. Yet, it is the purpose of the Plan to set forth a vision of how this can be realistically accomplished (which is provided in Section 6 of the AQMP) and then to make periodic adjustments to accommodate what can and can not be accomplished. The AQMP creates a positive structure for this to occur and the impetus to make it happen.

2-21

The alternatives analysis has been expanded as requested by several parties. CEQA does not specify that each alternative must meet project objectives (attainment of all ambient air quality standards), only that a range of reasonable and feasible alternatives must be evaluated. With the inclusion of SCE and WSPA alternatives in the December, 1988 EIR and in Attachment 1 and 2 to this Addendum, the District believes this responsibility has been fulfilled.

000007

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) PREPARED FOR THE
SCAQMD AIR QUALITY MANAGEMENT PLAN

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There are several points made in this review that we wish to emphasize:

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2-25

- The analysis presented in the DEIR does not take into account the potential for oxides of nitrogen to scavenge ozone from the atmosphere and that, under certain conditions, imposition of NOx control measures may actually exacerbate existing attainment problems.

2-22

As noted in the responses to comments 2-12 and 2-13, quantifying impacts for a plan like the AQMP is not required or considered feasible in most instances. The claim that this document does not address "cross-media" impacts is not correct. Much of the focus of the December, 1988 EIR and this Addendum is the impact to other environmental media (water, land, natural systems, etc.) caused by increased air emission control measures proposed in the AQMP. These cross-media impacts have been evaluated based on the data available and the general character of the proposed control measures.

2-23

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

2-24

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the response to comment 2-8 and to Attachment 6 which further addresses the public health issues related to methanol.

2-25

Please refer to response to comment 2-4 and to Attachment 2 which addresses this issue. A portion of this information is presented below:

To say "NOx acts as a scavenger to destroy ozone" could be misleading. What is important is the ROG/NOx ratio. For areas that have low ROG/NOx ratios, it is not effective and, in certain cases, counter-productive to reduce NOx. But in areas of high ROG/NOx ratios, it is quite effective to reduce NOx. Therefore, the District advocates "selective" reductions of NOx emissions based on detailed UAM predictions when ozone is the sole consideration.

Several major difficulties have to be overcome before we can meaningfully address the problems of "natural" contributions to ozone. Emission inventories of biogenic hydrocarbons usually contain large uncertainties; photochemical reaction rates of biogenic hydrocarbons are also not accurately known. It is believed that significantly better understanding of the role of biogenic hydrocarbons in ozone formation is necessary before entertaining actions regarding "natural" sources.

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The relationship between ozone and NOx is complicated by the fact that NOx both forms and destroys ozone at different stages of the photochemical cycle. NOx emissions not only contribute to high ozone and NO2 levels, but they also play an important role in visibility degradation and acid deposition (SCAQMD, 1987), including acid fogs which have been shown to occur throughout the Basin (Winer, 1988). Other issues associated specifically with NO2 concentrations include: NO2 is a precursor to ammonium nitrate particles which are the major components of secondary respirable particulates; NO2 is a precursor to compounds such as peroxyacetyl nitrate (PAN), which is responsible for serious damage to vegetation; NO2 is a precursor to compounds that have been demonstrated to impair public health such as nitrous acid (a gas phase mutagen), nitrosamines, nitro-polycyclic aromatic hydrocarbons (nitro-PAH), and other toxic compounds that are mutagenic or carcinogenic (Winer, 1988). Laboratory evidence indicates that none of the preceding compounds are emitted directly from combustion sources. Instead, they are formed in the atmosphere from reactions involving NOx emissions from man-made combustion sources.

The federal ambient air quality standards are based on research that demonstrates human health impacts resulting from NO2 exposure. For example, there is evidence (Sherwin, 1988) that ambient levels of NO2 can result in: high levels of subclinical lung diseases such as loss of lung reserves (healthy lung tissue); lesions; increase in type 2 cells; facilitation of cancer metastasis to the lungs; and alteration of T-lymphocyte and natural killer cell subpopulations, thus reducing the body's ability to defend itself against disease.

NOx emissions reductions lead to reductions in NO2 levels. According to Scheible (1988), between the years 1978 and 1983, NOx emissions in the Basin were reduced by a total of approximately 135 tons per day. As can be seen in Table 2 below, this period coincides with a period of steady decline in NO2 levels. Over the short-term, NOx emissions reductions may increase ozone emissions near the point source. Over the long-term this effect will decline. Ultimately, NOx and VOC emissions reduction rules are necessary to help ameliorate ozone air quality problems.

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TABLE 2

Nitrogen Dioxide in the South Coast Air Basin - Summary
Statistics:
Trends in 6-Station Composite Average, 1978-1983
(Burbank, Long Beach, Lennox, West L.A., Pasadena)

	1978	1979	1980	1981	1982	1983
6-Station ' Mean of Annual Average All hours1	6.52	6.15	5.85	6.04	5.56	5.05
3-Year Running Mean of Above1	6.53	6.17	6.01	5.82	5.55	5.21
6-Station Total of Days State Standard Was Exceeded (1 Hour Average 25 pphm)	90	78	78	62	25	27
3-Year Running Mean of Above	110	82	73	55	38	21

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The comment suggests that there may be natural methods of "consuming smog," because of noticeable seasonable variation in air quality. This is a misconception. There are seasonal variations in air quality due to climate, meteorology, and chemical reactions of the various pollutants. For example, ozone is produced by atmospheric photochemical reactions between NOx and other hydrocarbon species. Therefore, ozone concentrations are higher in the summer because solar radiation is more intense and of longer duration, and temperature inversions are stronger and more persistent. The seasonal patterns for NO2 are not as well defined as those for ozone, but the highest seasonal concentrations typically occur in the fall-winter months and are lowest in the spring and summer. Part of the reason for the increased NOx levels in the fall-winter months is that solar radiation is less intense and days are of shorter duration. Consequently, the duration during which photochemical reactions involving NOx occur are shorter and photochemical reactions are slower because solar radiation is less intense.

EXECUTIVE SUMMARY (CONTINUED)

2-26

- The impact analyses presented in the DEIR regarding electrification control measures do not adequately treat the secondary impacts, particularly those which would occur outside the Basin. Assessment of these impacts is particularly important considering that Tier III electrification strategies would require 46,000 megawatts of new generation capacity or the equivalent of thirty new 1500 MW nuclear or coal-fired power plants.

2-26

Please refer to the response for comment 2-9.

000-12

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) PREPARED
FOR THE SCAQMD AIR QUALITY MANAGEMENT PLAN

GENERAL COMMENTS

2-27	A.	The plan and the methodologies utilized to evaluate impacts need to be more adequately documented with more coherent thought and legitimate analysis to be credible. It is not clear from the analysis presented in the DEIR that the plan represents a reasonable effort to reach attainment with air quality standards by the specified deadline or that all alternatives have been fully analyzed. One of the purposes of the DEIR should be to assess the reasonableness of AQMP assumptions. In particular, the DEIR should evaluate the likelihood that the goals forecast for each control measure will be met by the District (also see specific comments p.4-18-3, p.4-18-17).	2-27	Documentation to support EIR findings has been provided in the December, 1988 EIR and this Addendum. Regarding the reasonableness of effort to reach attainment, please refer to the responses to comments 2-10, 2-13, and 2-20. Regarding the alternatives, refer to the responses to comments 2-4, 2-21, and to Attachments 1 and 2. Your comment regarding AQMP assumptions is noted and has been addressed in comments 2-10 and 2-13. Any evaluations of the AQMP being effectively implemented would involve subjective speculation which would not enhance the information base presented to the District Board. The Board will have to consider opinions on the feasibility of Plan implementation when it makes its decision on the AQMP. If adopted, the Board must then make an appropriate commitment of the District's resources to its implementation.
2-28	B.	Many of the measures presented are not technically feasible within the time constraints for plan implementation (see specific comments regarding p.4-7-6, p.4-9-7).		
2-29	C.	The DEIR is overly optimistic in its expectations of what benefits will accrue due to the control measures, how quickly these benefits will accrue, what the economic impacts of the controls will be, what impacts on other media will be, and what kind of substitutions will be made toward less polluting activities (see specific comments regarding p.4-10-1, p.4-12-2, p.4-12-3, p.4-14-1, p.4-18-16, p.8-1).	2-28	Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.
			2-29	Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.
2-30	D.	The information presented in the DEIR does not demonstrate that the time frame in which measures are to take effect is reasonable or possible, no matter what public commitment is made (e.g., high speed rail to San Francisco and 20 percent of all passenger vehicles electrically powered in Tier II). Also refer to specific comments regarding p.3-20.	2-30	It is not the purpose of the EIR to demonstrate that the time frame is reasonable or possible. The EIR's purpose is to assess the level of the potential impact from implementing the AQMP's control measure and to provide conclusions to the District Board and to the public to make an informed decision, and to be informed, respectively. Since this is a Plan that contains goals and establishes ways and means of accomplishing these goals, the impacts are (with few exceptions) time independent. Should any measures fail to be available, substitutes must be found and implemented through future revisions to the AQMP.
2-31	E.	The DEIR does not provide information on the mechanisms necessary to effect the changes that it assumes in human values, personal preferences, and resource utilization (see specific comments on p.4-2-2, p.4-12-3, p.4-18-14).		
2-32	F.	Many of the forces examined under the control measures may not fall under the jurisdiction of the District and may require the cooperation of several political or regulatory authorities (see specific comments regarding p.4-2-6, p.4-7-1, p.4-8-1, p.4-8-3, p.4-10-2, p.4-10-5, p.4-10-6, p.4-11-4, p.4-13-2, p.4-18-10).	2-31	Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.
2-33	G.	Many complex socioeconomic impacts are either not adequately factored into the analysis of control measures or are grossly underestimated in the discussion of impacts (see specific comments regarding p.4-11-1).		As above, the EIR is not responsible for determining that the Plan can be implemented; EIR responsibility extends only to defining adverse environmental consequences if the Plan is fully implemented. It will require political will and public commitment to adopt and implement
2-34	H.	Cross-regulatory impacts and impacts upon the economy are not		

000513

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- 2-29 C. The DEIR is overly optimistic in its expectations of what benefits will accrue due to the control measures, how quickly these benefits will accrue, what the economic impacts of the controls will be, what impacts on other media will be, and what kind of substitutions will be made toward less polluting activities (see specific comments regarding p.4-10-1, p.4-12-2, p.4-12-3, p.4-14-1, p.4-18-16, p.8-1).
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- 2-34 H. Cross-regulatory impacts and impacts upon the economy are not

the means to effect changes noted in your comment. Please refer to the responses to comment 2-10 and 2-20.

2-32 Your comment is noted and is correct. Please refer to the response to comment 2-10 and to Tables 6-3 through 6-9 in the AQMP. The Tables outline responsibilities for implementing proposed control measures. See also appendices IV-A, IV-B and IV-C.

2-33 Your comment is noted. Substantial additional information was provided in the December, 1988 EIR, including Appendix F which summarizes socioeconomic impacts. These additions plus the response to comment 2-36 provide information at the level considered appropriate for the AQMP EIR. Additional measure-specific socioeconomic data will be provided for review when specific measures are implemented in the future.

2-34 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the response to comment 2-22 for information on the technical issue raised.

000324

adequately analyzed. Each control measure seems to be implemented in a vacuum, ignoring the synergistic or antagonistic impacts of other control measures and economic forces upon their effectiveness. Many of the control measures appear redundant, are contradictory, and impose unnecessary costs for very little marginal benefit (see specific comments regarding p.2-10, p.4-7-5).

- I Quantitative analyses and evidence to support the assertions of the plan are weak. Reference sources are not well documented and the presentation of quantitative analysis is often awkward and not useful in understanding the impacts of the plan. Projections are often based on underlying assumptions that are neither presented in the plan nor adequately documented elsewhere. It is difficult, therefore, to assess the validity of these projections (see specific comments on p.1-3, p.3-14).

- J The basis for the gross economic impact projections of the control measures is unclear. If these projections are based on a full economic analysis of the control measures, then the analysis needs to be documented. If such an analysis has not been done, then these projections may not be accurate, and should not be used. An economic analysis of the control measures needs to be completed and included in the DEIR.

- K The discussions in the DEIR regarding substitution of fuels, methods, and processes with less polluting means do not adequately address the economic impacts of such substitutions, and more importantly, do not address risk, emissions tradeoffs, or cross-media pollution. In many cases, a control measure substitutes highly concentrated primary emissions from a given source for a less concentrated and less polluting primary source. However, the less polluting source often has significantly greater secondary emissions (e.g., manufacture of retrofit equipment or power generation outside the Basin), thus producing a zero or negative net reduction in pollution, at great cost or other socioeconomic disruption. Please refer to our specific comments for examples of these deficiencies.

- L In many cases, it is difficult to analyze the projections because the plan is very unclear what models/measures are actually being applied. For instance, Appendix IV-H (April, 1988) outlines and analyzes four alternatives for the Regional Mobility Plan. The DEIR for the AQMP states that alternative III of these four alternatives is applied in the AQMP. The Draft Regional Mobility Plan, September 1988, however, outlines a preferred alternative that is actually an amalgamation of the four alternatives presented in Appendix IV-H.

- M Many of the benefits attributed to control measures in the DEIR are also provided by other control measures (e.g. freeway capacity and infrastructure enhancements, and nonrecurrent congestion control measures). The net effect is a double-counting of the benefits for control measures that impose an increased cost on society, but provide little marginal benefit (also see specific comments

2-35 Your comments are noted and all specific reference deficiencies have been corrected. Please refer to the responses to comments 2-5, 2-12, and 2-13 for additional information.

2-36 Please refer to the response to comment 2-33. In addition, based on the costs estimates generated for Tier I stationary control measures, the socioeconomic impacts of the AQMP have been quantified for as many parameters as feasible. This analysis is summarized in Appendix F.

Appendix F, distributed with the December, 1988 EIR, has quantified socioeconomic impacts of Tier I control measures, the Regional Mobility Plan, and the Growth Management Plan in the AQMP. Qualitative assessments of potential impacts on specific socioeconomic issues are also in Chapter 4-18 of the December, 1988 EIR.

As the District moves through the process of rule development, the specific technical and economic feasibilities of each control measure will be evaluated in accordance with CEQA tiered review procedures. At that time, full scope socioeconomic impacts of each control measure will be addressed and assessed.

Analysis of Tier II and III socioeconomic impacts is less detailed and more qualitative due to the lack of any specific data on control measures in these tiers.

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2-37

Please refer to the response to comment 2-8 and to Attachment 6 for technical information on methanol substitution. The overall compilation of emissions reduction includes those potential increases within the Basin. Outside of the Basin, emissions may increase (power plant emissions) but would be reduced to acceptable levels through federal and state regulatory procedures or the selected site would not be approved. Please refer to the response for comment 2-9.

2-38

The December, 1988 EIR included clarification on models and measures being applied to make projections. For the specific issue raised in your comment, pertinent information is provided on pages 5-9 through 5-12 of the December, 1988 EIR.

2-39

Please refer to the response for comment 2-11.

00016

2-39 regarding p.4-2-7, p.4-12-5, p.4-12-12).

2-40 N. The information provided on control measures in the DEIR is insufficient to allow a reader to evaluate either the impacts or mitigation measures proposed.

2-41 O. There is no discussion of impact methodology anywhere in the DEIR. The reader must conclude that most of the analysis was qualitative. Given the severity of the impacts of many control measures, more rigorous analysis should have been undertaken.

2-42 P. It is not possible to cross reference the DEIR to the AQMP since no designations for individual measures are given.

2-43 Q. The ranking/classification of impacts and listing of potential mitigation according to CEQA criteria is missing from the document.

2-44 R. No quantitative consideration has been given to impacts on hazardous waste disposal capacity in the region due to the residual produced from the implementation and proliferation of methanol conversion plants, pre- and post-combustion desulfurization technology, baghouse and precipitation devices for particulate removal, and post combustion NOx controls (i.e., spent catalysts) (see specific comments regarding p.4-2-9).

2-45 S. The DEIR has not truly evaluated any reasonable alternatives to the AQMP as required by CEQA. It has only qualitatively evaluated alternative scenarios that by their conceptual makeup either fail to achieve attainment of federal standards or exceed what is required to achieve attainment. The DEIR should evaluate alternatives capable of achieving the same attainment goals. These alternatives would evaluate other mixes of control strategies that would achieve attainment, but would have a different set of associated environmental, economic and social impacts than the proposed plan. It would also be prudent to utilize the model to quantitatively define the difference in impacts among the scenarios, and preferably an alternative that also might show attainment (see specific comments regarding p.2-14, p.2-15).

2-46 T. The impacts on public and worker safety associated with technology-forcing control strategies have not been fully addressed. In addition, use of unproven technology may be inconsistent with the intent of fire or health and safety codes.

2-47 U. The document does not address the potential for oxides of nitrogen to decrease ambient ozone concentrations through the ozone scavenging mechanism (see comments for Section 4-1).

2-48 V. It is unclear why the analysis ignores significant secondary impacts associated with obtaining power from outside the basin (see specific comments regarding p.4-1-36, p.4-7-7, p.4-8-4, p.4-14-1, p.4-14-2).

2-40 The discussion of control measures was substantially expanded in Chapter 2 of the December, 1988 EIR. Also, Appendices IV-A through IV-C serve as part of the EIR and contain descriptions of control measures in as much detail as possible at the planning stage of review. This procedure is consistent with Section 15147 of the CEQA Guidelines.

2-41 'Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the EIR. Where specific quantitative methods were used to project impacts (primarily air quality), they are cited. As noted in the response to comment 2-5 and in the Executive Summary, most of the AQMP EIR analysis is qualitative, and thus consistent with CEQA requirements for a policy plan such as the AQMP.

2-42 Please refer to Chapter 2 in the December, 1988 EIR which provides tabular summaries (Tables 2-2 through 2-13) of control measures equivalent to those found in the AQMP.

2-43 AQMP impacts are characterized in the December, 1988 EIR (Table 6-1) and summarized again in the Executive Summary. Mitigation measures identified in the December, 1988 EIR have been edited into performance or implementation language and are summarized in Attachment 8 to this Addendum.

2-44 Refer to the response for comment 2-13. It is not possible to assess future potential hazardous waste capacity issues quantitatively as the 'analysis in response 2-13 indicates. Qualitatively, the impact to such disposal capacity may be significant but depends on so many unknown variables that to attempt qualification at this point would be unnecessarily speculative.

For example, the commentor would also like a quantification of hazardous wastes generated from methanol conversion plants. There is no evidence that methanol conversion plants will be constructed in the Basin, will be allowed to operate in the Basin, and, if they are allowed to operate in the Basin, it is unknown how many facilities will operate. It is not appropriate in an EIR to speculate on a potential impact, especially given so many unknowns.

- 2-39 [regarding p.4-2-7, p.4-12-5, p.4-12-12).
- 2-40 N. [The information provided on control measures in the DEIR is insufficient to allow a reader to evaluate either the impacts or mitigation measures proposed.
- 2-41 O. [There is no discussion of impact methodology anywhere in the DEIR. The reader must conclude that most of the analysis was qualitative. Given the severity of the impacts of many control measures, more rigorous analysis should have been undertaken.
- 2-42 P. [It is not possible to cross reference the DEIR to the AQMP since no designations for individual measures are given.
- 2-43 Q. [The ranking/classification of impacts and listing of potential mitigation according to CEQA criteria is missing from the document.
- 2-44 R. [No quantitative consideration has been given to impacts on hazardous waste disposal capacity in the region due to the residual produced from the implementation and proliferation of methanol conversion plants, pre- and post-combustion desulfurization technology, baghouse and precipitation devices for particulate removal, and post combustion NOx controls (i.e., spent catalysts) (see specific comments regarding p.4-2-9).
- 2-45 S. [The DEIR has not truly evaluated any reasonable alternatives to the AQMP as required by CEQA. It has only qualitatively evaluated alternative scenarios that by their conceptual makeup either fail to achieve attainment of federal standards or exceed what is required to achieve attainment. The DEIR should evaluate alternatives capable of achieving the same attainment goals. These alternatives would evaluate other mixes of control strategies that would achieve attainment, but would have a different set of associated environmental, economic and social impacts than the proposed plan. It would also be prudent to utilize the model to quantitatively define the difference in impacts among the scenarios, and preferably an alternative that also might show attainment (see specific comments regarding p.2-14, p.2-15).
- 2-46 T. [The impacts on public and worker safety associated with technology-forcing control strategies have not been fully addressed. In addition, use of unproven technology may be inconsistent with the intent of fire or health and safety codes.
- 2-47 U. [The document does not address the potential for oxides of nitrogen to decrease ambient ozone concentrations through the ozone scavenging mechanism (see comments for Section 4-1).
- 2-48 V. [It is unclear why the analysis ignores significant secondary impacts associated with obtaining power from outside the basin (see specific comments regarding p.4-1-36, p.4-7-7, p.4-8-4, p.4-14-1, p.4-14-2).

The commentor would also like quantitative data on hazardous wastes generated from pre- and post-combustion desulfurization technology, baghouse and precipitation devices for particulate removal, and post-combustion NOx controls, (spent catalysts). As stated in the response to comment 1-43, determining the potential for increased generation of hazardous wastes resulting from a particular technology is difficult because it is not known how many new and existing facilities will choose specific control technologies, how many will recycle waste products, or how many will change their industrial process, thus reducing the volume of wastes produced. Additionally, elemental sulfur recovered from desulfurization units is a valuable commercial material and is sold rather than disposed of.

SCR is a post-combustion control technology that is effective in reducing NOx emissions. Most of the short-term control measures for reducing NOx emissions, in which SCR systems may be used, have already been developed and a quantitative analysis of waste disposal impacts has been made. Please refer to Attachment 3 for a complete discussion of spent catalyst disposal impacts.

2-45 Please refer to the response to comments 2-1, 2-2, 2-7, and to Attachments 1 and 2.

2-46 The manner in which this comment is made indicates that WSPA is aware that any evaluation of such safety issues would be too speculative at this planning stage. The potential for significant safety impacts from undefined control strategies or technology exists and must be addressed when such strategies and technologies are ready for implementation in the future. When adequately defined, the safety issues can be fully evaluated, mitigation determined, and a decision on consistency with fire, health, and safety codes made. If a particular strategy or technology proves too risky, it can be rejected by the Board and supplanted by other contingency measures.

2-47 Please refer to the responses to comments 2-4 and 2-6, and to Attachment 2 of this Addendum.

2-48 Please refer to the response for comment 2-9.

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SPECIFIC COMMENTS

CHAPTER 1 - SUMMARY

Summary of Areas of Controversy

p.1-3 This section discusses significant benefits that will be realized by application of the control measures outlined in the plan. These benefits are not adequately documented, however, and many are highly questionable. This section should, at the very least, caveat the benefits of the proposed plan with regard to the underlying assumptions made in projecting those benefits. It is not clear that there is a strong relationship between the analysis that follows and the benefits that are cited.

2-49

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. The documentation supporting the summary statements on page 1-3 of the December, 1988 EIR consists of the AQMP (and its modeling), the EIR and responses to comments, and the technical appendices.

Economic and Socioeconomic Impacts

p.1-3 This section states that the AQMP will "hasten regional trends", assuming that current trends will continue, only at a faster rate. This assertion is not supported by any analysis in the document, and should either be supported by documentation or eliminated.

2-50

The conclusion on page 1-3 regarding "hastening trends" is supported by the Regional Mobility Plan, the Growth Management Plan, and the evaluation of the AQMP's impact contained in the EIR. The evolution toward a service, rather than industrial/manufacturing economy, will be fostered by implementation of AQMP control measures based on the analysis in these documents.

Impacts of Methanol Fuel

p. 1-4 This section states that the use of methanol could increase worker exposure to formaldehyde. It is equally if not more significant that the general public is likely to be exposed to substantially increased formaldehyde levels related to combustion of methanol in stationary and mobile sources.

2-51

Please refer to page 4-17-10 and 11 in the December, 1988 EIR, to the response to comment 2-8, and to Attachment 6 which addresses methanol use and public health risk.

2-52

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the response to comment 7-21 for specific information in support of the conclusion referred to in your comment.

Project Benefits

p. 1-6 There is not enough information in the draft EIR to support the contention that increased crop yields are a significant benefits associated with implementation of the AQMP.

2-53

Please refer to the responses to comments 2-5, 2-12, and 2-33. To the degree feasible, out-of-Basin economic forces are incorporated into the socioeconomic impacts outlined in the December, 1988 EIR and in Appendix F. However, such forces are generally beyond the District's ability to forecast.

CHAPTER 2 - PROJECT DESCRIPTION

Objectives of The Project

p.2-2 This section indicates that the DEIR focuses primarily on impacts in the Basin occurring as a result of plan implementation. As noted in other comments provided in the section to follow, the plan lacks depth and substance in discussing these impacts and does not evaluate many of the impacts in relation to the economic forces exerted from outside the Basin.

p.2-2 The Tier I measures would have significant secondary economic impacts that are not accounted for in the DEIR. Most importantly,

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some of the control measures will decrease the effectiveness of other measures (gas production controls and methanol fuels), conflict in purpose (SCR and agricultural waste control), and achieve little or no additional benefits while imposing great additional costs and/or producing greater overall emissions (low sulfur fuels).

Description of the Project

- p.2-3
2-55 Only twelve pages of description are devoted to the AQMP. This description does not provide not enough information to allow the reader to form an opinion regarding impacts. At a minimum individual control measures and estimated emission reduction potential should be included in table format.
- p.2-3
2-56 In Tables 2-1 through 2-5, references should be provided for the baseline emissions data.
- p.2-4
2-57 In Table 2-1 mobile sources are shown to be the dominant contributor in all categories of emissions in the Basin except for PM. Measures that will reduce emissions from mobile sources are, therefore, likely to be the most important to the plan and should be given greater weight. In order to be consistent with AB 2595 (SHARE), the plan needs to point out which of the sources are of greatest concern and prioritize and implement the control measures based on control and cost-effectiveness criteria. As they are currently presented, each control measure seems to have an equal weight and importance in reducing emissions in the Basin. This lack of prioritization is misleading and biased in that it does not allow users of the EIR to assess which sources to control to provide the greatest air quality benefit. We believe that it is in the best interest of the District to should focus on controlling sources that would provide the greatest air quality benefit.

Emissions Reduction Summary

- p.2-9
2-58 This section of the plan refers the reader to Appendices IV-A and IV-E through IV-G for summaries of projected emissions reductions. The projections provided in these appendices, however, are not adequately documented and no basis for their use is provided.
- p.2-10
2-59 Tables 2-2, 2-3, 2-4, and 2-5 are intended to show the actual emissions that will be reduced because of the control measures. If these projections are derived from or in the same manner as the modeling for baseline projections (Appendix III-D), then they are likely to overestimate actual reductions. According to the assumptions in Appendix III-D, the effects of control measures are not factored into the model when computing projections for subsequent control measures. This methodology results in a double-counting of emission reductions. There also seem to be discrepancies in these tables between numbers shown in the DEIR and

2-54

The secondary economic impacts are generally included in the socioeconomic impact evaluation provided in Appendix F. Regarding specifically gas and methanol, uses do not conflict as outlined in the Plan but are considered supplemental. For SCR and agricultural waste control, these actions are considered offsetting and SCR controls are considered essential to long-term PM10 controls, as are low sulfur fuels.

2-55

Please refer to the much expanded project description (Chapter 2) in the December, 1988 EIR.

2-56

References for Tables 2-1 through 2-5 have been provided.

2-57

Please refer to the response for comment 7-3 which provides additional information. Note also:

The implementation schedule for Tier I control measures is based on the following criteria: (1) Emissions reduction potential; (2) Length of time required for implementation; (3) Technical, institutional, and legal readiness; (4) Cost-effectiveness of control (5) Availability of financing; (6) Short-term benefit without interfering with long-term

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some of the control measures will decrease the effectiveness of other measures (gas production controls and methanol fuels), conflict in purpose (SCR and agricultural waste control), and achieve little or no additional benefits while imposing great additional costs and/or producing greater overall emissions (low sulfur fuels).

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goals; and the number of years the benefit will accrue. See also the response to comment 3-45.

2-58 Please refer to responses to comments 2-5 and 2-12 and to the Executive Summary. The Appendices cited in your comment provide the level of detail permitted at this stage of evaluation. More specific data will be provided when specific rules are written for implementation in the future.

2-59 The data in Tables 2-2 and 2-5 of the AQMP have been updated to reflect the text of the December, 1988 EIR. Double counting has not occurred. Please refer to the response for comment 3-45.

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those (Tables 4-1, 4-12, and 4-14) in the AQMP. If the analyses in this document are based on old data, it may be a serious deficiency.

Alternatives to the Proposed Project

2-60

- p.2-14 The project alternatives considered do not address any variations in control measures (as the document admits); only the dates of attainment are varied. The attainment dates are required by law. Effort should be made to consider other approaches such as; land use planning to eliminate "hot spots" of pollution, activity management, and a larger emphasis on mobile source technologies.

2-61

- p.2-15 The alternative growth scenario should be given more weight in that even the economic impacts associated with Tier I and II measures will severely impact industrial development and population growth. We also suggest that the alternative scenario developed and modeled (consistent with District protocols) by WOGA should be given consideration.

CHAPTER 3 - EXISTING AND FORECAST SETTING IN THE BASIN

Future Air Emissions

2-62

- p.3-14 The assumptions and data presented in these figures (Tables 3-2 and 3-3) are not adequately documented. It is also not clear that the projections account for the possible secondary socioeconomic impacts of the AQMP that are addressed in subsequent comments. In Appendix III-D, Baseline Projection, it is admitted that several assumptions in the methodology used to project baseline emissions may be flawed:

2-63

- The appendix contends that because projections of demographics and economics have been developed independently, that circularity has been avoided. The biases in projections associated with simultaneity (circularity) have not been avoided, however, if the iterative impacts of demography and economy upon each other have not been accounted for in the model.

2-64

- Appendix III-D indicates that no adjustments are made to the model to account for the changes due from the control measures. Because many of the control measures will impact both the economy and demography of the Basin, the omission of control measures from the model biases and overestimates reductions in emissions for subsequent control measures.

2-65

- Economic projections appear to be derived solely from historical national, regional, and state trends. The model does not account for the unique changes in Basin economy and changes in industries, employment, and migration directly attributable to the AQMP itself.

2-60

Please refer to the responses to comments 2-1, 2-2, and 2-27 and to Attachment 1 and 2.

2-61

Your request has been accommodated, as noted in the response to comment 2-60, and your opinion will be forwarded to the District Board for consideration in making its decision on the AQMP.

2-62

Appendices III-A, III-B, and III-C and Addendum No. 1 to these appendices provide the available detailed support for the tables. Regarding secondary socioeconomic impacts, refer to the response to comment 2-54. Your comment regarding Appendix III-D is correct, but the effect of these flaws is considered acceptable in projecting impacts for the AQMP.

2-63

The iterative impacts were incorporated into the model that generated the emission forecasts. Simultaneity is taken into account to determine the mutual effects of population and economic growth. It need not be considered in forecasting time series data.

2-64

Appendix II-D reflects the baseline projection without any additional control measures. This is appropriate for a baseline condition and incorporation of AQMP control measures would result in a non-baseline projection.

2-65

The additional factors noted in your comment have been generally incorporated into the socioeconomic projections contained in Chapter 4-18 of the December, 1988 EIR and Appendix F. Generally, the economic and demographic projections used in the AQMP are based on widely accepted and extensively used social science forecast methodologies (see references in the EIR and Appendix F) for economics and demographics.

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Population Growth Forecasts

- p.3-18 Factors currently attracting immigrants to the Basin which should have been considered include:
- abundance of job opportunities (immigration would be affected by industrial decline); and
 - impact of new immigration policies on population growth.
- p.3-19 Since the bulk of the population growth is projected to be centered in areas (metropolitan Los Angeles) already of concern with respect to air quality, growth prohibition in these areas may be in order. The AQMP stresses regional planning with health effects as a major focus. Growth limitations imposed by local cities are not considered in the analysis, and the plan does not address additional efforts that could be made in this area. In fact, many of the control measures in the transportation area actually encourage increased growth in already polluted urban areas.

Employment and Economics

- p.3-20 Based on its own description of high wage and low wage jobs, implementation of the AQMP will result in further decline in mid-wage earnings. The measures will eliminate many low wage jobs as well due to the decline of the industrial and manufacturing sectors of the economy.

CHAPTER 4 - ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Section 4-1 - Air Quality

Air Quality Benefits of the AQMP

- p.4-1-2 It is also true that an increase in oxides of nitrogen (NO_x) emissions can decrease ozone concentrations through an ozone scavenging mechanism. This mechanism was not evaluated in the DEIR. Early implementation of massive NO_x reduction measures may actually hinder ozone attainment efforts.
- p.4-1-3 In Table 4-1.1, peak ozone concentrations shown for the 1985 episode day are of much greater importance in terms of health effects than the average concentrations presented in chapters 3 and 4. Yet some of the control measures proposed to mitigate these episodes may be technically infeasible to implement within the required time frame (e.g., coating substitutions, electrification). In those cases, it may be more effective to curtail emissions during peak episodes or during meteorological conditions when episodes are known to occur. Money should be spent on improving the predictiveness of models and increased communication systems so that curtailment during episodes can be achieved efficiently.

2-66 The components of population growth and their impacts have been extensively analyzed in SCAG's Draft Baseline Projection (August, 1986) and in the Impact Assessment (March, 1987).

2-67 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Growth limitations may occur in individual local jurisdictions but are beyond the ability of the forecast methodology to effectively incorporate. Based on mixed results of growth limiting efforts in the Basin, any predictions would be too speculative to provide effective information to the District Board and public. Overall, the forecasts assume that growth limitations in local areas will not be of sufficient scope to impact regional forecasts. Finally, job/housing balance is encouraged in urban areas based on the assumption that effective implementation of control measures will increase the use of mass transit and reduce pollution to acceptable levels.

2-68 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Employment impacts have been further characterized in Chapter 4-18, of the December, 1988 EIR and in Appendix F.

2-69 Please refer to the responses to 2-4, 2-6, and 2-25 and to Attachment 2.

2-70 Regarding time frames for implementation, please refer to the responses for comments 2-10 and 2-30. The remainder of your recommendations will be forwarded to the District Board for consideration in making its decision on the AQMP.

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- 2-71 p.4-1-4 It should be reemphasized that control measure effectiveness in the DEIR is based for the most part on their ability to reduce maximum hourly concentrations. Curtailment strategies should have been considered as an alternative to technology forcing control measures in that they can achieve the same maximum hourly reductions.
- 2-72 p.4-1-12 The text states that 90% of all CO and 60% of all NO₂ (p.-1-19) are emitted by mobile sources, yet vehicle inspection and maintenance and new car vehicle standards have been delayed in implementation. AQMP proposes very little to correct this deficiency until Tier II measures are implemented.
- 2-73 p.4-1-13 In Table 4-1.3, 1985 CO Quality, the number of exceedances seem to be quite localized. Therefore, source control that focuses on location seems particularly important. This aspect was not addressed in the document.
- 2-74 p.4-1-20 The headings in Table 4-1.5 need to be labeled properly in order to interpret data. References are also important and should be provided.

Tier I Control Measures

Oil Processing and Petroleum Distribution

- 2-75 p.4-1-28 Safety considerations regarding electrification of OCS platforms and ammonia storage associated with SCR are not considered in the evaluation of impact. If back-up fuel substitution applies to OCS emergency equipment, offshore safety hazards are significantly increased. It is also unclear how the District plans to implement these control measures since these sources are beyond their jurisdiction.

Heaters, Boilers, and Steam Generators

- 2-76 p.4-1-30 The evaluation of the amount of basin transport of solid waste presented in the DEIR does not consider mobile source emissions generated as a result of that transport.

Solid Waste, Sewage Treatment and Recycling

- 2-77 p.4-1-30 Under this section, mention is made of toxic ROG emissions. It is not clear what this means and how these ROG emissions differ with ROG emissions from virtually all other sources which are not stated to be toxic.

- 2-71 No data is presented to support the contention that curtailment strategies can effectively achieve the same hourly reductions. Please refer to the response for comment 2-70. Also, refer to the response for comment 3-12.
- 2-72 Enhanced inspection and maintenance programs are included as part of Tier I control measures. Refer to Table 2-8 in the December, 1988 EIR.
- 2-73 Please refer to Section 4-12 of the December, 1988 EIR which identifies access control measures, goods movement measures and other measures aimed at locational control of CO. Also, note that anticipated growth of CO emissions from sources throughout the Basin requires Basin-wide CO controls.
- 2-74 1985 NO_x emissions are abstracted from the District's 1985 emissions inventory, Appendix III-A, of the AQMP. Emission estimates for the year 2000 and 2010 are from Appendix III-B. Emissions for the year 2010 and Tiers I-III are from Appendix III-A and the Draft AQMP, Table 3-4. The Table is accurately labeled.
- 2-75 Your comment is noted and is correct. Exact methods of implementing electrification of OCS platforms and ammonia storage with SCR will be fully evaluated and resolved prior to implementation of this measure. Acknowledging the potential for significant safety hazards that will require adequate mitigation is as far as the analysis can proceed at this point. Please refer to the responses for comments 2-10, 2-20, and 2-30.
- Also, note that some of the control measures for OCS Exploration Development and Production may present a risk of adverse environmental impacts, for example, the storage of methanol standby fuel and ammonia (for SCR) on OCS platforms. Other control options such as the use of gas turbines instead of diesel engines and the control of fugitive ROG emissions on platforms would not present these impacts. Analysis of specific impacts of electrification and comparative impacts (i.e. methanol spills versus diesel fuel spills) would be addressed in rule making proceedings.
- 2-76 The validity of this comment is not clear. If local disposal sites are closed and transfer stations are effectively located near rail lines or

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- p.4-1-13 | In Table 4-1.3, 1985 CO Quality, the number of exceedances seem to be quite localized. Therefore, source control that focuses on location seems particularly important. This aspect was not addressed in the document.
- p.4-1-20 | The headings in Table 4-1.5 need to be labeled properly in order to interpret data. References are also important and should be provided.

Tier I Control Measures

Oil Processing and Petroleum Distribution

- p.4-1-28 | Safety considerations regarding electrification of OCS platforms and ammonia storage associated with SCR are not considered in the evaluation of impact. If back-up fuel substitution applies to OCS emergency equipment, offshore safety hazards are significantly increased. It is also unclear how the District plans to implement these control measures since these sources are beyond their jurisdiction.

Heaters, Boilers, and Steam Generators

- p.4-1-30 | The evaluation of the amount of basin transport of solid waste presented in the DEIR does not consider mobile source emissions generated as a result of that transport.

Solid Waste, Sewage Treatment and Recycling

- p.4-1-30 | Under this section, mention is made of toxic ROG emissions. It is not clear what this means and how these ROG emissions differ with ROG emissions from virtually all other sources which are not stated to be toxic.

major freeways, the actual volume of emissions may be reduced. Until a specific solid waste collection and transport system is proposed for out-of-Basin transport of solid waste, no specific conclusion (beyond the potential to increase emissions) can be drawn.

2-77

Reactive organic gases (ROG) that may be designated as toxic by either the Tanner process or by EPA would be considered toxic ROG.

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Agricultural Processes

- 2-78 p.4-1-31 Provide rationale for the fact that agricultural processes are being controlled to limit ammonia production, yet at the same time control measures for stationary combustion sources (SCR) proliferate ammonia use.
- 2-79 p.4-1-32 The mitigation of formaldehyde emissions generated from the use of clean fuels program to below PEL's does not provide the general public with the same safety factor included in the determination of acceptable exposure levels for the criteria pollutants. Effective control of formaldehyde emissions may prove to be a major obstacle in control measure implementation. Yet the SCAQMD is going forward with this approach even though they state that the full impact of increased formaldehyde emissions is yet to be determined. This is a potentially serious health issue which should be further investigated.

Transportation System and Land Use

- 2-80 p.4-1-33 In proposing emissions reductions from better drive-through designs, it is surprising that AQMD would include a "non-quantifiable" control measure in Tier I, when it would violate EPA's measure evaluation criteria. In addition, the District claims significant reductions in emissions (70 tons/day of CO, 8 tons/day of NOx, and 6 tons/day of ROG) and ozone formation from these measures.
- 2-81 No incentives are proposed for maintenance of existing vehicles. This measure is both achievable and quantifiable and could be a criteria for registration restriction.

Off-Road Vehicles

- 2-82 p.4-1-33 Offshore ballasting of VOC's from cargo ships are a potential major source, yet restrictions on this activity were not considered. It is also unclear how AQMD intends to regulate jet aircraft that are currently under the control of FAA.

Tier II Control MeasuresTransportation Sector

- 2-83 p.4-1-34 It should be cautioned that infrastructure improvements involving highway capacity enhancements and construction of high-occupancy vehicle lanes may encourage increased vehicle use by decreasing traffic impacts. It would not make sense to spend large sums of money on measures that would eventually increase air pollution.

2-78 Please refer to the response for comment 1-46. The rationale for controlling agricultural sources of ammonia emissions is to attain the net balance between total emissions reductions required to achieve attainment or near attainment for all criteria pollutants.

2-79 Studies concerning methanol have been completed and are in progress for numerous topics including health effects of automotive methanol vapors and formaldehyde produced by methanol, cancer epidemiology of formaldehyde, methanol flammability, safety considerations for storing, transporting, and dispensing methanol, and potential groundwater contamination of methanol fuels. The results of these analyses will be considered during subsequent rule-making activity. Please refer to Attachment 6 for additional information.

2-80 Please refer to the response for comment 7-18. The amount of emissions reduction has been quantified to the degree feasible.

2-81 Enhanced Inspection and Maintenance programs are included in the AQMP as control measures and may include such incentives when a specific rule is implemented in the future.

2-82 Your comment regarding ballasting is noted and will be considered at the time of specific rule formulation. Please refer to the responses for comments 2-10 and 2-20 regarding other agency mitigation and implementation responsibility.

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Agricultural Processes

- p.4-1-31 | Provide rationale for the fact that agricultural processes are being controlled to limit ammonia production, yet at the same time control measures for stationary combustion sources (SCR) proliferate ammonia use.
- p.4-1-32 | The mitigation of formaldehyde emissions generated from the use of clean fuels program to below PEL's does not provide the general public with the same safety factor included in the determination of acceptable exposure levels for the criteria pollutants. Effective control of formaldehyde emissions may prove to be a major obstacle in control measure implementation. Yet the SCAQMD is going forward with this approach even though they state that the full impact of increased formaldehyde emissions is yet to be determined. This is a potentially serious health issue which should be further investigated.

Transportation System and Land Use

- p.4-1-33 | In proposing emissions reductions from better drive-through designs, it is surprising that AQMD would include a "non-quantifiable" control measure in Tier I, when it would violate EPA's measure evaluation criteria. In addition, the District claims significant reductions in emissions (70 tons/day of CO, 8 tons/day of NOx, and 6 tons/day of ROG) and ozone formation from these measures.
- p.4-1-34 | No incentives are proposed for maintenance of existing vehicles. This measure is both achievable and quantifiable and could be a criteria for registration restriction.

Off-Road Vehicles

- p.4-1-33 | Offshore ballasting of VOC's from cargo ships are a potential major source, yet restrictions on this activity were not considered. It is also unclear how AQMD intends to regulate jet aircraft that are currently under the control of FAA.

Tier II Control Measures

Transportation Sector

- p.4-1-34 | It should be cautioned that infrastructure improvements involving highway capacity enhancements and construction of high-occupancy vehicle lanes may encourage increased vehicle use by decreasing traffic impacts. It would not make sense to spend large sums of money on measures that would eventually increase air pollution.

This has been a cause of concern but, on balance, the measure is necessary. Much of the current jobs/housing imbalance is viewed as much more the result of economic than of transportation conditions. Despite drastically declining mobility levels, cheaper housing to the east of downtown continues to induce workers to endure ever-increasing commute times. Local government actions to encourage more jobs in the housing-rich areas and more housing in the job-rich areas should alter this economic equation even in the face of any improved travel conditions resulting from this measure. Most people probably prefer to work near to where they live even if long-distance travel is made easier. Improved jobs/housing balance as envisioned in the Plan will not, moreover, eliminate the practice of long-distance commuting. Many short trip commuters also use the freeway. Accordingly, both air quality and mobility concerns point to the need to enhance the capacity of the freeway and highway system.

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Surface Coating and Solvent Use

- p 4-1-35 The practicality of increasing transfer efficiency and substitution of alternative coating techniques depends on what is being coated. Wood coating operations are seriously affected by this measure, yet water based coatings may be infeasible for wood application. Water-borne coating substitutes have a potentially greater impact on water quality because of their solubility. It is important to remember that the water quality problems in Los Angeles are comparable to our air quality problems.

Stationary Sources

- p.4-1-35 In discussion of impacts, the imposition of fees and emission charges are not necessarily technology forcing if technology is not forthcoming. It is more likely that the measures will inhibit industrial and manufacturing activity in general and result in a decrease in jobs and population growth.
- p.4-1-35 It is stated that 170 tons/day of ROG reductions are expected from the imposition of export fees on petroleum products. First, there appears to be no documentation provided to support this number. Second, it seems particularly high since the AQMP itself indicated that there are only 81 tons/day from this entire source category in the 1985 inventory (AQMP pg. 3-4).

Tier III Control Strategy

Future Energy Use in the District

- p 4-1-36 A secondary impact of electrification would be the increase of emissions in areas outside the Basin. It has estimated that this electrification strategy would require 46,000 megawatts of new generation capacity to implement. It is unlikely that other regions would be willing to assume the pollutant burden for our energy needs. Southern California has already been criticized for appropriating the water resources of other regions. This criticism will intensify if we attempt to appropriate air resources as well. It is uncertain whether other communities will provide the regulatory approvals necessary to site these power plants. Energy efficient technologies such as nuclear power or coal combustion may encounter intense public opposition and, in order to meet this demand, thirty new 1500 MW power plants would have to be sited. Solar and wind energy technologies, while clean in terms of operation, have the following secondary impacts:
- Heat transfer fluids in solar panels can be extremely toxic.
 - Solar and wind power generation are both very land-intensive. Solar thermal power facilities generally require one acre of

2-84

The feasibility of using water-based coatings in specific applications will be evaluated at the rule-making stage. Where an application is not feasible, contingency measures will have to be examined to provide the required ROG reductions. The exact mechanism of increased water quality impact due to solubility is unclear. For all point sources, pretreatment is required if concentrations of solvents are high enough in waste water. This mitigates potential water quality impacts. For non-point sources the potential for contamination of water at measurable levels appears negligible.

2-85

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. This argument has been used before and in most cases has proven untrue because technology has been forthcoming. In those instances where it is not successful, other alternatives for reductions will have to be pursued.

2-86

Reductions of 170 tons of ROG emissions are expected from the stationary source category (which includes both petroleum products and building construction) as a result of implementing export fees. The 85 tons/day of ROG emissions from miscellaneous processes is only a subset of those emissions which could potentially be reduced through emission fees.

2-87

Please refer to the response for comment 2-9.

2-88

Please refer to the response for comments 2-9, 2-13, and 2-44 regarding hazardous waste generation. The degree to which solar heat transfer technologies will be used is not known at this time and the degree to which toxic as opposed to nontoxic heat transfer fluids would be used is also not known. To address potential impacts at this point would be highly speculative and inappropriate.

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land per megawatt. Meeting Tier III power demand with this technology would require over 70 square miles of land.

- These technologies require tremendous energy to produce the hardware needed to build power generation facilities. The pollutants generated as a result of hardware manufacture is a significant secondary impact. The amount of hardware needed is related to the scale of these facilities (see above).
- Because of the scale required to generate significant amounts of electricity, aesthetics area also severely impacted.
- Even if these facilities are sited in remote locations such as desert habitat, biological impacts could be major.

Finally, the utility costs and distribution costs are borne by all users of the grid and not just the Basin. These issues should be evaluated in the DEIR even if impacts do not occur within Basin boundaries.

Section 4-2 - Water Impacts

Control of Fugitive Emissions from Construction of Roads and Buildings

- p.4-2-1 [The mitigation section suggests that seasonal/temporal controls be applied to construction activities to eliminate peak impacts. This technique could be used in lieu of many of the control measure categories for stationary and mobile sources.

Growth Management

- p.4-2-2 [Although growth rates are assumed in the impact discussion to be equal to what is projected with the baseline, the redistribution of population would put a severe strain on sewage systems near job-rich areas. In addition, it is not clear how AQMD proposes to counter no- or slow-growth policies to allow high density housing in job rich areas without tremendous public outcry.

Control of Emissions from OCS Exploration, Development and Production

- p.4-2-4 [Dilution of wastewaters prior to discharge as proposed in the discussion regarding mitigation is not considered acceptable practice.

Further Emission Reductions from Rubber Products Manufacturing

- p.4-2-4 [The impact section assumes carbon adsorbers are regenerated on-site; yet the amount of space required and emissions generated during this

2-89 Please refer to Attachment 5 and to the response for comment 2-33. The potential costs to all users of the grid cannot be forecasted with any degree of accuracy at this time and will have to be addressed when a specific electrification strategy is defined in conjunction with Basin electric utility companies.

2-90 Your comment is noted and will be considered when individual rules are implemented. The data in Section 4-1 of the December, 1988 EIR indicates that the secondary aerosol fraction of PM10 is too high a percentage to be fully offset by your recommendations.

2-91 Public input (including negative input) will have to be addressed on a case-by-case basis. The counter arguments to your comment relate to achievement of healthy, clean air. The sewer capacity for job-rich areas is generally greater than for housing-rich areas. Therefore, increasing housing in job-rich areas may not strain sewer capacity. Where capacity will be strained, the treatment system will have to be expanded in a timely manner to support growth in existing capacity.

2-92 Your comment is noted and dilution has been eliminated as a mitigation measure in the AQMP EIR.

2-93 The key issue is regeneration, not the location where it occurs. Businesses that decide to regenerate on-site will do so under appropriate regulations. Out-of-Basin regeneration will require transport of the used carbon adsorbed with attendant risks and controls identified in the response for comment 2-13.

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process would be prohibitive. The impacts here need to be rethought in light of these factors.

Lower Limits on Sulfur Content of Stationary Fuels

p.4-2-5 | Switching to Saudi Arabian light may not be feasible; especially when local refineries have recently made special modifications to handle higher sulfur Santa Barbara Channel crude. This measure may not just impact costs, it would impact supply as well. It is also unlikely that Saudi Arabian light would meet product limits on sulfur content without additional processing.

p.4-2-5 | It should be noted that some SO₂ emissions may result from desulfurization of fuels occurring in the basin. Control of sulfur content of fuel can therefore not be considered 100% effective.

Control of Emissions from Soil Contamination

p.4-2-6 | The control measure described in this section indicates that the District must be contacted immediately upon discovery of contamination. It is not clear in the discussion whether the District plans to coordinate with other agencies (i.e., the Department of Public Works or the RWQCB) on these activities. Delays associated with additional District restrictions on site investigation or remediation activities could seriously hinder cleanup effectiveness, especially in areas where the hydraulic gradient facilitates rapid plume movement.

Phase Out Stationary Source Fuel Oil and Solid Fossil Fuel Use

p.4-2-7 | Replacement of all storage tanks and pipes with non-corrosive materials as described in the mitigation section is wasteful if fuel is only used for emergency purposes; engine modifications or replacements are also necessary in order to use different fuels. There are also industrial processes (e.g., rotary kilns for portland cement clinker) which require process temperatures higher than clean fuels such as methanol are able to provide. The activities necessary for replacement of equipment likely will pose greater threats/emissions than the present tanks and pipes themselves. The measure also increases likelihood of major accidents. It is never a good idea to increase the failure rate on an emergency system.

Control of Fugitive Emissions From Publicly Owned Treatment Works

p.4-2-7 | No evaluation was provided in the impact section on the effect of add-on controls on the biological degradation process itself. In addition, many other stationary source control measures will increase sewer effluent (e.g. fuel gas sweetening and carbon adsorption), yet the District proposes to put restrictions on

2-94 | The control measure presents several potential strategies that may be used in order to reduce sulfur content in fuels. Impacts were not assessed based on complete elimination of sulfur in fuels, as suggested, but on limitations in the fuel's sulfur content. Your other points are noted and a determination of feasibility will be examined at the time of implementation.

2-95 | Your comment is noted, but any emissions are forecasted to be substantially below that associated with use of fuel with higher sulfur content. As noted in the response for comment 2-95, complete elimination of sulfur in fuels is not forecasted.

2-96 | This control measure has already been implemented through a 1988 rule-making. The rule-making followed all required CEQA procedures.

2-97 | The mitigation measure refers to general switches in fuel, not only those for emergency purposes. The emergency circumstances can be evaluated at the time of rule formation. The requirement for engine modifications or replacement is acknowledged and considered generally in the socioeconomic evaluation, Appendix F-3. Where higher process temperatures are required than clean fuels can provide, special consideration can be given at the rule implementation phase. The basis for greater threats due to equipment replacement is unclear and must also be considered during rule implementation. Your final comment is noted.

2-98 | Again, the issue raised in your comment is not appropriate for consideration and must be addressed at the time the control measure is considered for implementation. It is clear that the treatment process has to be protected at a level of operation that allows waste discharge requirements to be met. Both stationary source control measures and restrictions on industrial effluent can be achieved by adequate multimedia treatment systems (such as waste water pretreatment) to eliminate industrial characteristics of effluent. The regulatory consequences on industries that end up generating hazardous waste will be considered at the time specific rules are considered, but may result in acquisition of TSD permits as part of the cost of doing business.

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industrial effluent at the same time. The feasibility of implementing both measures concurrently should be re-evaluated. If pretreatment of wastewater occurs on site and hazardous waste is generated, facilities are subject to TSD permits and the environmental liability associated with that designation. Most facilities would have extreme reluctance to submit to a designation which would trigger closure requirements upon facility shutdown.

Growth Management

1-100 p.4-2-9 In evaluating water reuse as a mitigation measure, it is important to consider that the reuse of water has legal impediments such as distribution/ownership of the water which must be overcome before it can be practical; this aspect was not addressed in the DEIR.

Tier I Surface Coating and Solvent Use Control Measures

2-100 p.4-2-9 Disposable carbon units are considered as a mitigation measure if coating reformulation proves ineffective, yet disposable units generate hazardous waste and to recommend their use is contrary to the intent of recommendations made regarding regeneration of control devices in other control measures.

Section 4-7 - Land Use

Tier I

2-101 p.4-7-1 The impacts of existing control measures are considered, but there are no considerations given to strategically limiting activities in hot spot areas of high concentrations of non-photochemically reactive pollutants. Proposed offset rules also reinforce this problem by not allowing use of remote offset sources.

2-102 Many aspects of the control measures aimed at land use rely on local planning commissions to control and induce the location of new housing and businesses. The new residents and businesses affected by these actions, however, represent a small portion of the contributors to overall future emissions. Much of the plan would require that existing distributions of residents and businesses shift in order to be effective. These impacts are not adequately addressed, and as discussed below, pose grave policy questions.

Alternate Work Schedules and Locations

2-103 p.4-7-1 The description of the control measure which would induce people to adopt alternate work schedules and locations does not provide adequate information on mechanisms that can bring about the anticipated shifts. Impacts of this control measure upon mobile sources should be considered as an environmental impact, but is not estimated here.

2-99

Changes in water rights and ownership are not suggested as mitigation measures. On-site treatment of wastes for reuse of water on-site as well as water conservation techniques are emphasized. The limitation of this mitigation strategy is acknowledged by the need to obtain NPDES (waste discharge) permits. The permitting process would address the legal ramifications of water distribution and ownership.

2-100

Please refer to the response for comments 2-13 and 2-93.

2-101

This comment appears to imply that ambient air quality concentrations in excess of standards at isolated locations could be made acceptable by limiting activity. This does not meet the primary goal established by the District Board and the AQMP. It is not considered an acceptable control measure. Some time and place measures will be addressed as a result of adding control measure CM #88-T-8 to the AQMP in the December, 1988 revisions.

2-102

The proposed AQMP and Growth Management Plan do not envision or prescribe shifting locations of existing residents and business.

2-103

The specific mechanisms for implementing a control measure are to be defined in the future. The general approach to control measure implementation is outlined in the Appendices IV A through C. The potential impact on mobile source emissions is considered positive as outlined on page 4-1-34 of the December, 1988 EIR.

Growth Management

- 2-104 p.4-7-3 The evaluation of control measure impact is based on the assumption that the total Basin population would remain the same as projected, but would be redistributed to achieve a better jobs/housing balance. This assumption is highly questionable. The discussion assumes that people will create "networks" by living nearer to smaller satellite work areas. Plan implementation may cause large negative impacts upon the economy that will induce much lower or negative economic growth. The relationship between these forces should be addressed in the analysis (see Section 8-1).

Freeway Capacity Enhancements

- 2-105 p.4-7-5 This control measure is not well documented, and it is difficult to analyze whether or not this measure will provide any real benefits. A long term impact of this measure may be increased reliance on single occupant vehicles as highway capacity increases. This aspect was not fully considered in the impact analysis. Areas of expansion should be carefully screened to prevent increases in average vehicle miles traveled. This section fails to account for the impact that the control measure will have on increasing driving, due to increased capacity and efficiency of the system. The discussion notes that the enhancements could "initiate moderate, localized changes in urban form as a result of the new access created," and then refers the reader to the DEIR for the Regional Mobility Plan. The Regional Mobility Plan, however, does not aid in understanding these impacts.

These effects should be addressed in greater depth in this report. It appears that the assessment provided here may not be the most likely scenario for impact. This measure may reduce the effectiveness of more appropriate control measures (4-12) aimed at increasing efficiency of the transportation system to control emissions and that carry less significant perverse incentives. These measures include inducements for using HOV lanes, carpooling, and ridesharing and are considered preferred alternatives.

High Speed Rail

- 2-106 p.4-7-6 No evidence is provided that the technology required for high speed rail is available or that construction is possible within the time frame that the plan allows. Even if such a system were available, construction would have to commence, at the very latest, by 1992 in order to meet the implementation goal of 2010. This schedule does not allow time for designing a system, obtaining the necessary financing, or granting of appropriate environmental permits. Therefore, this measure is not feasible, and should not be relied upon to provide emission reduction benefits.

2-104

Your comment regarding redistribution is noted. The District's support for this assumption is provided in the Regional Mobility and Growth Management Plans. The basis for your conclusion is not presented. The potential economic impacts of this assumption have been incorporated into the evaluation presented in Appendix F. Also, please refer to the response for comment 2-33.

Assumptions are always necessary when predicting population growth. As information becomes available, assumptions could be revised to update projections. The presumption that residential and employment locations are interrelated is supported by analyses in the above referenced plans.

2-105

Please refer to the response for comment 2-83.

2-106

Your comment focuses on implementation which must be carried forward in the future. High speed rail technologies are already available in several foreign countries; they include the Japanese Shinkansen system, the French TGV, and the West German ICE. The Japanese system has been in service for several decades, and the French system has been in successful operation for several years.

In this country, high speed rail is under consideration in a number of states including Florida, Texas, Ohio, Pennsylvania, California/Nevada and Michigan. The most advanced of these projects is the Florida High Speed Rail Transportation Commission's plan for a line linking Miami and Tampa.

The critical variables in implementing this measure will be starting the planning process soon after adoption of the AQMP and proceeding in a timely manner thereafter. The actual period required to develop such a system will have to be defined during this planning process. The District does not agree that this measure is infeasible and the conclusion presented in your comment is premature based on a general lack of scheduling data.

000-22

Item IIIElectrification

- 2-107 p. 4-7-7 This control measure seems to apply the panacea of "electrify it" to replace everything that currently relies on fossil fuels or other emission producing fuels. Since the area does not have a large source of hydro power, electricity will need to be generated either within the Basin or purchased outside the Basin. The plan indicates a preference for obtaining power from outside the Basin unless that power can be generated using non-polluting fuels. The shift from fossil fuels to electrification ignores the fact that costs of electricity is significantly higher than obtaining power from other sources such as fuels. Further, it does not acknowledge there will be other significant environmental impacts outside the region associated with electrification. As noted below, this control measure poses an ethical dilemma in that it would transfer emissions to communities outside the Basin for activities (power generation) that solely benefit the Basin. It is also not clear that non-Basin areas will allow power plants in their communities for the sole purpose of serving Basin users.
- 2-107 p. 4-7-7 It is also unclear that EPA will approve of any action that may inhibit other Regions' ability to demonstrate reasonable progress towards attainment of the ambient air quality standards.

Section 4-8 - Natural ResourcesLand

- 2-107 p. 4-8-1 There is already controversy between local jurisdictions regarding land use plans which conflict along city borders. More input on a regional level is needed to coordinate planning. Regional planning influence will be even more important for control measure implementation

Petroleum and Coal

- 2-110 p. 4-8-3 If the District expects that electrification will depend on increased use of coal resources, then it is ignoring potential climatic changes associated with the greenhouse effect. If coal is used directly for power generation, it produces NO_x and SO_x which contribute to acid rain problems. Synthesis of methanol from coal is only about 50% efficient; which is lower than synthesis from conventional petroleum feed stocks. Naturally occurring heavy metals and polynuclear aromatics are components of waste products generated during the incomplete combustion process utilized to synthesize methanol. This process produces significant amounts of hazardous byproducts, which need to be treated or disposed.

2-107

Please refer to Attachment 5 to the Addendum and to the responses for comment 2-9. Electrification is not a "panacea," but it is a major option in meeting future air quality goals of the AQMP. The cost of living in the future will increase as a result of relying upon power from outside the Basin but, based on revised estimates, the degree of cost increase cannot be projected at this time. Ethics and siting issues will have to be addressed on a case-by-case basis, but it is understood that siting a power plant can be very difficult.

2-108

Your comment is noted. This depends upon locations selected for power plants. Edison previously obtained approval for two (2) major power plant projects, Cal Coal and Lucerne (Johnson) Valley Peaker Park in the Southeast Desert Air Basin; and plants could be considered in other states in attainment areas. Lands can be sited out-of-Basin as recent history indicates, but it is recognized that future sitings are subject to a very rigorous process and associated public controversy.

2-109

Your comment is noted and will be forwarded to the District Board for consideration in its decision on the AQMP. The Regional Mobility and Growth Management Plans support this comment and contain programs to implement conditions.

2-110

Your comment is noted and information on the AQMP and greenhouse effect is provided below

The formation of photochemical oxidants is a complex process in which reactive hydrocarbons and nitrogen oxides react under the influence of sunlight. Both potential loss of high altitude ozone shield (which would increase the amount of ultraviolet radiation reaching the planetary boundary layer) and potential increase in temperature due to the greenhouse effect could enhance the formation of oxidants in the lower troposphere. However, AQMD analysis shows that the projected temperature increases due to greenhouse effect and the depletion of stratospheric ozone would not significantly increase the future tropospheric ozone estimates.

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Tier III

Electrification

p.4-7-7 This control measure seems to apply the panacea of "electrify it" to replace everything that currently relies on fossil fuels or other emission producing fuels. Since the area does not have a large source of hydro power, electricity will need to be generated either within the Basin or purchased outside the Basin. The plan indicates a preference for obtaining power from outside the Basin unless that power can be generated using non-polluting fuels. The shift from fossil fuels to electrification ignores the fact that costs of electricity is significantly higher than obtaining power from other sources such as fuels. Further, it does not acknowledge there will be other significant environmental impacts outside the region associated with electrification. As noted below, this control measure poses an ethical dilemma in that it would transfer emissions to communities outside the Basin for activities (power generation) that solely benefit the Basin. It is also not clear that non-Basin areas will allow power plants in their communities for the sole purpose of serving Basin users.

2-107

2-108

p.4-7-7 It is also unclear that EPA will approve of any action that may inhibit other Regions' ability to demonstrate reasonable progress towards attainment of the ambient air quality standards.

Section 4-8 - Natural Resources

Land

p.4-8-1 There is already controversy between local jurisdictions regarding land use plans which conflict along city borders. More input on a regional level is needed to coordinate planning. Regional planning influence will be even more important for control measure implementation.

2-109

Petroleum and Coal

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2-110

The following text briefly presents the analysis conducted to evaluate the impact of the projected stratospheric ozone levels and surface temperature increases on the estimation of lower atmosphere ozone levels. First, the projections of changes in future surface temperature and stratospheric ozone levels are presented. This is followed by the presentation of the results of modeling analyses performed to evaluate the impact of stratospheric ozone and surface temperature changes on lower atmosphere ozone levels. Finally, the modeling analyses results are used to determine the increase in the estimated tropospheric ozone level due to the stratospheric ozone level and surface temperature, projected in the worst-case scenario.

Projections of Changes

The estimation of future stratospheric ozone levels and temperature increases due to greenhouse effect is a difficult task. Due to the lack of complete understanding of the complex interactions between human activities and the environment and between the various components of the environment itself, the models developed for projecting stratospheric ozone levels and greenhouse effect involve significant uncertainties. The uncertainties in future emissions for example chlorofluorocarbons and carbon dioxide emission compound the difficulty of projecting changes in stratospheric ozone levels and surface temperatures. These uncertainties are reflected by a wide range of projections that have been made for future stratospheric ozone levels and surface temperatures.

AQMD staff conducted a literature survey to determine the range of projections on temperature increase and depletion of stratospheric ozone. Of the studies on greenhouse effect that were reviewed (see list of references), the EPA study is most recent. The EPA study projects that the overall world-wide temperature will increase by 4 to 5 degree Celcius in the next century (0.05 degree/year). On the basis of that projection, surface temperature would increase by 2.25 degree Kelvin from 1985 to 2010. On the basis of these results, under a worst-case scenario, stratospheric ozone would decrease by 8.5 percent from 1985 to 2010. This corresponds to an ozone depletion rate of 0.23 percent per year.

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Tier IIIElectrification

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2-107

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2-108

Section 4-8 - Natural ResourcesLand

p.4-8-1 There is already controversy between local jurisdictions regarding land use plans which conflict along city borders. More input on a regional level is needed to coordinate planning. Regional planning influence will be even more important for control measure implementation.

2-111

Petroleum and Coal

p.4-8-3 If the District expects that electrification will depend on increased use of coal resources, then it is ignoring potential climatic changes associated with the greenhouse effect. If coal is used directly for power generation, it produces NO_x and SO_x which contribute to acid rain problems. Synthesis of methanol from coal is only about 50% efficient; which is lower than synthesis from conventional petroleum feed stocks. Naturally occurring heavy metals and polynuclear aromatics are components of waste products generated during the incomplete combustion process utilized to synthesize methanol. This process produces significant amounts of hazardous byproducts, which need to be treated or disposed.

2-110

Urban Airshed Modeling

Gery and Whitten (1986 and 1987) conducted an extensive study of the effect of stratospheric ozone depletion and greenhouse effect on tropospheric ozone concentration levels. They used the OZIPM-3 model to estimate the impact of photoradiational changes on urban ozone production. A number of scenarios for stratospheric ozone densities (0.3, 0.25, and 0.2 cm-atm) and changes in surface temperatures (0, + 2 K, and + 5 K) were used as inputs to this model. Photochemical kinetic models, such as OZIPM-3, require baseline emissions (e.g., hydrocarbon and nitrogen oxides emissions) as inputs. Gery and Whitten projected these baseline emissions by using the EKMA model and assuming attainment of National Ambient Air Quality Standards for ozone in the region of interest.

Table 1 summarizes the result of the modeling analyses conducted by Gery and Whitten. Based on these results, the projected stratospheric ozone depletion and surface temperature increase for year 2010 could increase the tropospheric ozone estimate by up to 18 percent for a baseline peak concentration equivalent to the federal ozone air quality standard.

Your comments regarding methanol synthesis from coal are noted. The ultimate feedstock for methanol will be determined by the market place which will address proper management of waste products in all media. Potentially significant adverse impacts exist (both direct and indirect) with methanol production (see the responses for comments 2-9 and 2-13), but the extent of these impacts and the degree of effective mitigation will have to be determined at the time new production facilities are installed.

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Tier IIIElectrification

- p.4-7-7 This control measure seems to apply the panacea of "electrify it" to replace everything that currently relies on fossil fuels or other emission producing fuels. Since the area does not have a large source of hydro power, electricity will need to be generated either within the Basin or purchased outside the Basin. The plan indicates a preference for obtaining power from outside the Basin unless that power can be generated using non-polluting fuels. The shift from fossil fuels to electrification ignores the fact that costs of electricity is significantly higher than obtaining power from other sources such as fuels. Further, it does not acknowledge there will be other significant environmental impacts outside the region associated with electrification. As noted below, this control measure poses an ethical dilemma in that it would transfer emissions to communities outside the Basin for activities (power generation) that solely benefit the Basin. It is also not clear that non-Basin areas will allow power plants in their communities for the sole purpose of serving Basin users.
- 2-107
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- 2-107

Section 4-8 - Natural Resources

Land

- p.4-8-1 There is already controversy between local jurisdictions regarding land use plans which conflict along city borders. More input on a regional level is needed to coordinate planning. Regional planning influence will be even more important for control measure implementation.
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- 2-110

TABLE 1

Effect of Stratospheric Ozone Depletion on Surface Ozone Concentration (ppm)*

Ozone Column Density (cm-atm.)	Change in Temperature (Degree K)		
	+0	+2	+5
0.30	0.115 (0)	0.119 (3.5)	0.119 (5.0)
0.25 (16.7)	0.146 (27.0)	0.152 (32.2)	0.155 (34.8)
0.20 (33.3)	0.212 (84.4)	0.219 (90.4)	0.229 (99.1)

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Natural Gas

- 2-111 p.4-8-4 In evaluating impacts, the District anticipates that methanol demand will be met from outside the Basin, yet processing facilities must be located near the resource to meet cost-effectiveness criteria. Consequently, if the demand for clean fuels is to be met by domestic sources, it will put extra burden on Ventura, Santa Barbara and Kern counties, which are also non-attainment areas. The transfer of these impacts to other non-attainment areas is likely to be unacceptable to EPA.
- 2-112 It is also important to note that most of the natural gas supplies are situated on foreign soils (Middle East and Russia). If these resources were utilized, methanol use has the potential to increase U.S. dependence on foreign gas suppliers.
- 2-113 Whether demand is met by foreign or domestic natural gas supply, major distribution infrastructure must be in place prior to widespread use of methanol. This infrastructure would include pipelines, storage tanks, unloading facilities at major ports, and other pumping and support systems. The impacts associated with the construction and operation of these systems were not adequately addressed in the DEIR.
- 2-114 p.4-8-5 In the evaluation of mitigation for this control measure, it is acknowledged that the measure has the potential to force manufacturers out of business. All control measures should be reevaluated in this context.

Section 4-9 - Risk Of UpsetAdd-On Control Equipment

- 2-115 p.4-9-1 Information should be provided in the mitigation section as to how the District will ensure that inspection, monitoring and good housekeeping is accomplished.

(Same comment for Vapor Recovery Systems, p.4-9-2.)

Selective Catalytic Reduction

- 2-116 p.4-9-2 The impact section should provide an analysis of the potential for the release of ammonia associated with this technology.

Alternative Fuel TechnologyMethanol

- 2-117 p.4-9-4 The mitigation section describes the protective equipment used to handle methanol such as, impervious clothing, gloves, face shields and other equipment such as respirators. What will public

- 2-111 As previously noted, it is presumptive to make assumptions of what can and can not be accomplished in support of a control measure, such as methanol production and use, until a more detailed implementation program is set forth. If a large methanol market is established in the Basin, it is a reasonable assumption that manufacturers will deliver the product and that facilities will meet regulatory requirements of the regulators at the site. It is acknowledged that costs will increase with distance to these manufacturing facilities, but the amount of increase will depend on other factors besides distance (such as feedstock, manufacturing process, and mode of transportation).

- 2-112 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

- 2-113 Please refer to Attachment 6. The infrastructure required to distribute methanol will require modifications and additions that have potential significant impacts. Such impacts could include new land disturbance (refer to the response for comment 2-9), short-term disruptions of traffic due to construction (pipelines), and other impacts. However, use of the existing fuel distribution infrastructure to the degree feasible (with appropriate modifications to tanks and other equipment) might substantially reduce potential significant adverse environmental impacts to acceptable levels of non-significance.

- 2-114 Relocation of businesses in light of adoption of control measures would depend on the extent to which impacted firms absorb control costs. Firms will have to make their own decisions to adjust to the regulatory environment to stay competitive. Government regulation is only one dimension affecting industrial location decisions. The potential does exist for manufacturers to go out of business when costs cannot be passed on. This factor was considered in the socioeconomic analysis contained in Appendix F.

- 2-115 The District has existing inspection, monitoring and housekeeping procedures in place that are funded by permit fees. These will be expanded as needed to ensure these functions are carried out effectively. Funding will continue to be derived primarily from permit fees.

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Natural Gas

- 2-111 p.4-8-4 | In evaluating impacts, the District anticipates that methanol demand will be met from outside the Basin, yet processing facilities must be located near the resource to meet cost-effectiveness criteria. Consequently, if the demand for clean fuels is to be met by domestic sources, it will put extra burden on Ventura, Santa Barbara and Kern counties, which are also non-attainment areas. The transfer of these impacts to other non-attainment areas is likely to be unacceptable to EPA.
- 2-112 | It is also important to note that most of the natural gas supplies are situated on foreign soils (Middle East and Russia). If these resources were utilized, methanol use has the potential to increase U.S. dependence on foreign gas suppliers.
- 2-113 | Whether demand is met by foreign or domestic natural gas supply, major distribution infrastructure must be in place prior to widespread use of methanol. This infrastructure would include pipelines, storage tanks, unloading facilities at major ports, and other pumping and support systems. The impacts associated with the construction and operation of these systems were not adequately addressed in the DEIR.
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2-116 Please refer to Attachment 3.

2-117 Please refer to Attachment 6. Issues such as self service and installation of home units will be fully considered at the implementation stage of review.

2-117 perception be if these clothes are donned to dispense clean fuels at gasoline stations? Will the public be allowed to "self serve" given the risk of exposure? Was the risk of casual exposure at home (i.e., fuel tank leak in enclosed garage) considered? A more in depth analysis of public risk is required for this measure.

2-118 Additional fire protection equipment and facilities will be required since current techniques and equipment used for petroleum storage and handling are not effective with methanol.

2-119 p 4-9-5 The evaluation of the relative impact of methanol and gasoline is weak; acute exposure to methanol poses a substantially greater threat to public health than does exposure to gasoline. This impact should be evaluated.

2-120 Because methanol is much more soluble in water than conventional fuels, the potential for groundwater and surface water contamination associated with accidental fuel releases is much greater. In addition, since methanol is both odorless and tasteless, the potential for inadvertent ingestion of contaminated water is much greater than water contaminated with conventional fuels. These public health concerns should be addressed.

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2-121 p.4-9-6 The explosion hazards during collision should be considered in the analysis of impact.

Reformulation of Solvents and Coatings

2-122 p 4-9-7 The assessment of impacts is confusing. The measure advocates use of more toxic compounds such as methylene chloride, but the section acknowledges that if the compounds are regulated as toxic they cannot be used. The use of dichlorodifluoromethane is also suggested, but the analysis indicates that the District prohibits substitution of compounds that would lead to depletion of the ozone layer. The conclusion the reader reaches is that solvent and coating use in the basin is essentially prohibited. This section is contradictory and should be reanalyzed.

Section 4-10 - Population

Alternative Work Schedules and Locations

2-123 p.4-10-1 As noted in section 4.7, the premises on which the projected benefits of these control measures are based are questionable and not adequately supported or documented in the plan or background documents. In Tier I, the plan projects adoption of alternative work schedules or locations and telecommuting practices that involve 40 percent of the work force. Not only are inadequate mechanisms provided for achieving this shift in work style, but no basis is provided for this the assumption that 40 percent of the work force

2-118 Your comment is correct. During the review of implementation measures the District will determine what additional equipment and training will be required to respond to methanol emergencies. Funding to meet these equipment and training needs will be defined and identified at that time. Also, please refer to the response for comment 7-3.

2-119 Please refer to Attachment 6.

2-120 Please refer to Attachment 6 and to the response for comment 2-8.

2-121 Please refer to the December, 1988 EIR, pages 4-9-7-8 and 4-14-9 through 4-14-24. Specific discussion of collision impacts begins on page 4-14-19.

2-122 The broad conclusion reached in your comments does not consider the reliance on alternative means of reformulating solvents. In addition, methylene chloride may be used even if it is determined to be toxic. Special handling procedures might be required but it could still be used. Other alternatives are available for solvent reformulation, and the preferred reformulation materials will be addressed during the development of an implementation rule. Part of the detailed review will consist of identifying strategies and compounds for use in reformulation over the short-and long-term. It is possible that some coating uses may no longer be viable in the Basin, but based on the data available, the District does not anticipate this to be widespread.

More detailed information on health impacts of using exempt compounds is provided below:

The impacts associated with the use of exempt compounds in solvent and coatings reformulation was discussed in Chapter 4 of the EIR: "Reformulation of Solvents and Coatings," page 4-9-7.

The following compounds are the most frequently exempted compounds from the District Rules: 1,1,1-trichloroethane, methylenechloride, trifluoromethane (FC-23), trichlorotrifluoroethane (CFC-113), dichlorodifluoromethane (CFC-12), trichlorofluoromethane (CFC-11), chlorodifluoromethane (CFC-222), dichlorotetrafluoroethane (CFC-114), and

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chloropentafluorothane (CFC-115). The increased use of these compounds could intensify the health impacts associated with them. Coatings and solvents reformulation with these compounds would result in the generation of wastes and emissions which could directly affect human health through the air we breathe or through indirect sources such as drinking water and foods.

The actual health effect of these compounds cannot at this time be determined within the scope of this report, but in the review of specific implementation measures, which could involve one or any number of these compounds, attempts will be made to assess the associated health impacts.

On the other hand, recognizable health effects in populations are generally divided into two (2) categories, mortality and morbidity. Mortality refers to the number of deaths per unit of the population per unit of time and the ages at death. Morbidity refers to nonfatal cases of reportable disease.

Massive overexposures to toxic air emissions can cause significant amounts of death to occur with a short time after the exposure to the hazard. Exposure to toxic air contaminant could also result in residual disease and/or dysfunction. In any case, casual relationships are well-defined, and it may be possible to develop quantitative relationship between dose and subsequent response.

Based on the known facts about industrial operations everywhere, and the South Coast Air Basin in particular, overexposure of the public to toxic air contaminants which have resulted in death, have occurred to infrequently and are limited, in terms of length and scope, due to regulatory and operation requirements. The level of people exposed to low-level toxic contaminants, on the contrary, would be higher than that of those exposed to levels high enough to produce significant health effects. Furthermore, the increases in the incidence of diseases from low-level, long-term exposure to toxic hazards invariably occur among a very small segment of the population. It is not always an easy task to make any determination of low-level, long-term health effects resulting from any toxic contaminant. Quite often this would require extensive epidemiological study which involves thousands of person-years of exposure. In addition, low-level exposures tend to play contributory rather than primary roles in the increase of disease

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incidences. This factor contributes to the problems associated with early detection of the cause and effect of low-level, long-term exposure to toxic contaminants.

Effects of Toxic Contaminants on Mortality: Technological advancements have enabled good reporting of mortality and age at death, but a lot of advancement has not yet been made in identifying the exact cause of the majority of deaths in our society today. Therefore, the effects of the use of exempt compounds on human health and any related death cannot be easily quantified. Any effort in this direction would be done on a case-by-case basis, and even then, the result might be inconclusive.

Effects of Toxic Contaminants on Morbidity: There is greater difficulty in identifying other health effects criteria. So many factors contribute to health problems, and isolation of a particular contributor requires extensive studies. Again, it is beyond the scope of this report to address the specific effects of health impacts of the potential toxic contaminants listed above.

Mitigation of Impacts

Whereas the health effects associated with the hazards of exempt compounds cannot be adequately assessed in this report, there have been serious considerations made, and measures approved, which are intended to mitigate their impacts of these compounds. Please refer to mitigation measures in the EIR on page, 4-9-8.

Regarding dichlorodifluoromethane, it is allowed in the District as an "exempt" compound; the text on page 4.9.7 was in error. The District is concerned, however, with impacts on stratospheric ozone and supports efforts to mitigate adverse impacts of chlorofluorocarbons and to find substitutes. Examination of individual control measures and the District's long-term solvent strategy in the AQMP Revision and the AQMP EIR would highlight that reformulation is one of many alternatives for any source category and that the District supports conversion to solventless technologies whenever feasible. Solvent-based coating and solvents would not be essentially prohibited in the Basin. Where alternatives are not available and cannot be developed, reformulation using exempt solvents is integrated into individual control measures and the long-term solvent strategy.

000-111

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2-123

Generally, mechanisms which would increase the use of alternate work schedules are similar to those in the District's current regulation plans. These plans can include the use of alternate work schedules and telecommuting. The 20 percent adoption rate for both alternative work schedules and for telecommuting is a goal that implementation is intended to reach. Emissions reduction that are based on these goals are over- or under-achieved; implementation of other measures would have to adjusted to achieve the emissions reduction necessary to meet the federal clean air standards. The 20 percent goal may be made more difficult to attain by the success of other control measures such as freeway capacity enhancements. However, the goals, if achieved, would result in the emissions reduction specified.

As stated above, the goal of the measure is to seek a 20 percent reduction in work trip emissions by 2010 through any combination of work trip elimination or trip reduction (for example through the use of satellite work centers). Only 6 percent of the total reductions are assumed to take place by 1994. Given the rapid advances and cost reductions in such technologies as teleconferencing, facsimile transmission, videophones, and personal computers, there are ample reasons to believe that employers and employees will rapidly increase their use of these technologies to reduce time wasted during commuting, increase productivity, and save on office space requirements. Increased telecommuting will also be sought under indirect source regulations (such as Regulation XV). For employers, telecommuting will be one of the most cost-effective means of reaching the trip reduction targets in their indirect source plans.

2-124 is affected. It is unclear whether there is any relationship between this figure and the projected reductions in emissions. If there is no relationship, the benefits are likely to be overstated. The projection appears to relate to gross benefits only, and does not account for the secondary impacts of other measures (e.g., freeway capacity enhancements) that would induce some residents and employees maintain their current work schedules, locations, or practices.

p.4-10-1 The DEIR admits that the potential magnitude of population relocation is not known at this time, because it depends upon the actual number of affected workers, availability and cost of housing, socioeconomic factors, and other individual preferences and trade-offs. The missing information is pivotal in assessing the impacts of such an approach. It is inconsistent to project a 40 percent effect on the work force while admitting that the necessary information is not available.

2-124

Mode Shift Measures

p.4-10-2 Mode shift measures can be effective in reducing emissions while educating the public regarding the need for changes in personal travel methods. As noted elsewhere, other measures (such as freeway capacity enhancement) that make driving easier or increase road capacity may decrease emissions in the short term, but increase the incentive for others to continue their inefficient driving patterns, thus working against this goal.

2-125

2-126 In the impact section, it should be noted that people commute long distances because they cannot afford housing adjacent to work. Aside from moving businesses to lower income areas, the only other alternative would be to rezone single family residential areas to multiple dwelling areas, a move that would be vehemently opposed in existing residential neighborhoods.

Growth Management

p.4-10 5 The DEIR indicates that many of the intervening mechanisms necessary to influence population are beyond the District's authority for reasons of either a biological or political nature, and that politically feasible controls would need to be implemented through voluntary local government action. The mechanisms that are beyond the District's authority, however, may not be in the best self-interest of the local government authorities, and are therefore, not likely to be implemented without significant incentives to do so. Such incentives should be discussed in the plan or in the DEIR. For many local authorities the actions necessary under the control measure would undermine their tax base and local economy by massively re-zoning their communities to achieve the "balance" of jobs and housing. Since the benefits in reduced emissions would accrue to the region as a whole, the community would realize only a fraction of their economic losses through emissions reductions. It

2-127

2-124

As noted above, the 40 percent referred to in your comment is a goal not a specific forecast, and it is attributable to a number of programs, not just population relocation. The detailed information supporting the 40 percent projections is contained in the Growth Management and Regional Mobility Plans. The level of detail is believed to be commensurate with the inclusion of this measure in the Plan and sets the stage for further elaboration at the time of implementation.

2-125

Your comment regarding mode shifts is noted. Regarding the conflicts between measures that increased vehicle miles, the potential impact identified exists and can only be controlled through combined implementation of the integrated management strategy.

In order for these emission reductions not to be short term only, the AQMP proposes a variety of transportation mode choices such as improved transit (light-rail lines and buses), carpooling, and vanpooling. The development of these modes as viable alternatives to single-person commuting will ensure that if freeways become congested, commuters will be able to change their mode of transportation.

2-126

Housing price is not the sole factor affecting the residential location of urban households. Each city will choose as many of the control methods as are appropriate for implementation in their area. The District encourages each municipality to develop its own framework to better reflect the character and changing needs of its constituency. For more information on the environmental impacts of mode shift measures, please refer to the EIR December, 1988, pages 4-7-1 through 4-7-3, SCAG's Draft EIR Regional Mobility Plan October, 1988, and the Growth Management Plan (October, 1988).

2-127

Please refer to the response to comment 2-10 for a discussion of the District/local government future relationship. Specific incentives will have to be developed in conjunction with local governments as the growth management measures are brought forward for implementation. The degree of rezoning in each community will be determined when refined growth management plans are implemented; forecasts of "massive" rezoning is unduly speculative at this time. Your remaining comments are noted and will be forwarded to the District Board for consideration in making its decision on the EIR. For specific measures and a recommended implementation

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2-123

is affected. It is unclear whether there is any relationship between this figure and the projected reductions in emissions. If there is no relationship, the benefits are likely to be overstated. The projection appears to relate to gross benefits only, and does not account for the secondary impacts of other measures (e.g., freeway capacity enhancements) that would induce some residents and employees maintain their current work schedules, locations, or practices.

p.4-10-1

The DEIR admits that the potential magnitude of population relocation is not known at this time, because it depends upon the actual number of affected workers, availability and cost of housing, socioeconomic factors, and other individual preferences and trade-offs. The missing information is pivotal in assessing the impacts of such an approach. It is inconsistent to project a 40 percent effect on the work force while admitting that the necessary information is not available.

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2-125

In the impact section, it should be noted that people commute long distances because they cannot afford housing adjacent to work. Aside from moving businesses to lower income areas, the only other alternative would be to rezone single family residential areas to multiple dwelling areas, a move that would be vehemently opposed in existing residential neighborhoods.

2-126

Growth Management

p.4-10-5

The DEIR indicates that many of the intervening mechanisms necessary to influence population are beyond the District's authority for reasons of either a biological or political nature, and that politically feasible controls would need to be implemented through voluntary local government action. The mechanisms that are beyond the District's authority, however, may not be in the best self-interest of the local government authorities, and are therefore, not likely to be implemented without significant incentives to do so. Such incentives should be discussed in the plan or in the DEIR. For many local authorities the actions necessary under the control measure would undermine their tax base and local economy by massively re-zoning their communities to achieve the "balance" of jobs and housing. Since the benefits in reduced emissions would accrue to the region as a whole, the community would realize only a fraction of their economic losses through emissions reductions. It

2-127

summary, refer to Section 18 of the SCAG's Draft Transportation, Land Use & Energy Conservation Measures and the Draft Growth Management Plan.

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is not expected, therefore, that a local authority would take such action of their own accord, and certainly not without a substantial transfer of discounted future earnings (tax credit) from the other areas of the Basin that would benefit from their altruism. Importantly, Since implementation of growth management measures is voluntary, the projected benefits utilized in the DEIR for these measures may not be realized.

Capacity Enhancements

2-128 p.4-10-6 Expansion in freeway capacity only exacerbates an existing problem. Rezoning expensive residential areas will be vehemently opposed by existing residents.

Section 4-11 - Housing Impacts

Growth Management

2-129 p.4-11-1 The growth projections used in AQMP do not account for loss of jobs associated with cost prohibitive control measures. It should be acknowledged in the impact section that job loss, particularly in the low income industrial/manufacturing sections, may self limit population growth and housing impacts.

Energy Conservation Pricing, Tax and Subsidy Incentives

2-130 p.4-11-4 We support realistic energy conservation measures that will reduce emissions. However, implementation of these measures will require state support in the form of ballot measures or legislative action. It is uncertain that the rest of California is willing to conserve energy in order to improve air quality in the Basin.

Section 4-12 - Transportation

Tier I Measures

Limitations on Vehicle Registration

2-131 p.4-12-2 Limitations on registration would be effective in reducing localized Basin vehicles. However, support for this measure will be difficult to generate, and consequently, the measure will be difficult to implement. The benefits expected to accrue from this control measure, therefore, may not occur.

2-132 Such a measure also poses several important questions concerning the type of implementation mechanism to be used. Setting higher registration fees would be preferable to subjective selection of registration "caps" for reasons of economic efficiency, but would redistribute driving rights from the poor to the affluent. Some form of lottery, therefore, may be useful in correcting equity impacts, but may grant registration rights to people who will use them only periodically, denying those rights to individuals who have

2-128 Your comments are noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the response to comment 2-125. Specific freeway discussions are presented in the Draft Regional Mobility Plan (Sections III and V).

2-129 Substantial additional socioeconomic data has been made available through the December, 1988 EIR (Section 4-18), the Growth Management and Regional Mobility Plans, and Appendix F. The District has concluded that potential job loss will not occur (refer to 'page F-3 in Appendix 3) due to control measures. Our analysis of impacts to ethnic groups is also provided in Appendix F and the December, 1988 EIR. Should job loss occur, the degree of impact on population and housing will be small compared to the approximate 5.9 million increase in Basin population. The District projections indicate this impact will be negligible.

2-130 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the responses to comments 2-10, 2-20, and 2-30 for information regarding control measures implementation by other agencies.

2-131 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. As previously noted, control measures that are not effectively implemented would be replaced or supplemented by contingency measures

2-132 Please refer to the response for comment 2-17.

2-132 a greater need. These issues must be carefully explored in devising a system that will be effective, yet equitable.

Alternative Work Schedules and Locations

2-133 p.4-12-3 As noted, it is unclear what the projected benefits from this control measure are based on, and these benefits are likely to be grossly overstated.

Mode Shift Measures

2-134 p.4-12-5 The types of inducements outlined in this section are reasonable and should be effective. Again, however, measures that will increase freeway capacity will work against these goals and make such efforts difficult. The attention that this section gives to employee resistance to mode shifts and the incentives necessary for inducement are well-recognized. More attention should be given under all control measures to resistance by affected parties and recommended incentives for inducing the desired actions.

Employee Ridesharing and Transit Incentives

2-135 p.4-12-5 In the evaluation of Employee Ridesharing and Transit Incentive Programs, trip reduction programs for employers of 25 or more persons should include exceptions for services that by the nature of the work require that employees work irregular hours, or must travel during the day in their personal cars; such as doctors, lawyers, or sales personnel. Otherwise, this measure would put undue burden on certain economic sectors.

Traffic Flow Improvements

2-136 p.4-12-1 The efficiency increasing strategies for traffic flow (e.g., ramp metering, Automated Traffic Signal And Control (ATSAC) recommended under this control measure are appropriate, and should be instituted instead of, not in addition to, massive increases in freeway capacity.

Nonrecurrent Congestion

2-137 p.4-12-12 If nonrecurrent congestion (due to traffic accidents, obstacles, distractions) accounts for 50 percent of the congestion in the Basin, then as the plan notes, removal of as many of these obstacles and distractions as possible will make great gains in decreasing the vehicular hours traveled. This measure and other efficiency-based control measures should be implemented in the near term. The benefits should be analyzed and incorporated into the model prior to projecting the benefits of further control measures. Such an approach would eliminate other measures that are either redundant or that do not produce benefits over and above those already captured by other measures.

2-133 Please refer to the responses for comments 2-123 and 2-124. Also, an explanation of the control, measure, methods of control and references are presented in Appendix IV-C.

2-134 Your comments are noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the responses for comments 2-125 and 2-128.

2-135 Your comments are noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Specific content of this control measure will be defined and evaluated when it is implemented.

2-136 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

2-137 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. This is a Tier I measure (H-5, Table 2-9 of the December, 1988 EIR) that is scheduled for implementation in 1989. See Table 6-4 in the AQMP.

Freeway Capacity Enhancements

p.4-12-16 HOV lanes are necessary for existing freeways, but whether they should be provided in addition to current capacity or whether portions of current capacity should be replaced is open to question. This section of the plan asserts that vehicular miles and hours traveled would both be decreased with capacity enhancements, but that total number of trips would remain the same. Whenever freeway capacity in areas of large demand is increased either through increased physical capacity or increased efficiency, however, volume increases to absorb the excess. Additions in capacity that would decrease VHTs would also provide the incentive for that capacity to be absorbed, inducing employees and residents, on the margin, who currently do not drive (or use alternate modes of transportation) to drive instead.

Railroad Electrification

p.4-12-17 (See previous comments on impacts of electrification.)

Tier III Measures

p.4-12-21 (See previous comments on impacts of electrification.)

Section 4-13 - Public ServicesFire and Police ProtectionControl of Emissions from OCS Exploration, Development and Production

p. 4-13-2 It is unclear how the discussions in this section regarding hazardous waste generation relate to impacts on fire and police protection. The issue of concern with regard to fire protection is the increased fire hazard on offshore platforms associated with the use of alternative fuels. It is clear that the District has no jurisdiction over these sources and it is unlikely that the Coast Guard or the Minerals Management Service will support a measure with potential for creating industrial accidents.

Residential and Public SectorsControl of Fugitive Emissions from Publicly Owned Treatment Works

p. 4-13-4 Waste minimization, the measure proposed in the mitigation section to reduce the hazardous waste generated by more stringent POTW standards, is already required by law. It is also favored by most firms because of the reduction in disposal costs. Therefore, increased waste minimization efforts are unlikely. A more likely scenario is that more pretreatment will be required on-site, which will generate more hazardous waste and push many firms into the TSD facility permit arena. Therefore, increased hazardous waste

2-138

Please refer to the responses for comments 2-125 and 2-128. This control measure is part of a suite of measures that the Regional Mobility Plan analysis has determined necessary to achieve ambient air quality goals. As previously noted, your concerns will be forwarded to the Board for its consideration.

2-139

The measures identified which may cause concern are diesel modifications, alternative fuel use, and electrification of platforms. Each of these has been previously discussed in response to comments 2-13, 2-118, and 7-3. Final control measures will have to be coordinated with the Coast Guard and Minerals Management Service. As noted in the response to comment 2-118, the District must design a rule or other implementation program that assures that safety requirements can be met and that funds are available to accomplish safety requirements. See also the response to comment 2-75.

2-140

Your comment has been previously addressed in responses to comments 2-98 and 2-13. The impacts noted could occur but can be mitigated in a variety of ways. However, potential significant adverse impacts may occur.

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2-140 generation is an unavoidable adverse impact.

Others

Agricultural Processes - Control of Emissions from Livestock Wastes

2-141 p. 4-13-5 Livestock waste cannot be used for energy generating purposes without generating air emissions.

Schools

Growth Management

2-142 p. 4-13-6 In the impact section, it is stated that more families would live in the urban core of the Basin than would have otherwise been projected without AQMP growth management strategies. It is important to note that children attending schools located in urban areas adjacent to industrial areas are more susceptible to health effects associated with normal emissions and emergency releases from industrial facilities. Siting of new schools in these areas may require extensive site investigation and remediation if land donations from developers include property previously used for industrial purposes.

District Impacts

2-143 P 4-13-8 In the impact section, more information needs to be provided as to the magnitude of staff and equipment that would be required to research, develop and enforce the various rules and regulations implementing the AQMP. Impacts on District resources are expected to be severe and this impact may directly hinder the effectiveness of many of the control measures.

Section 4-14 - Energy

2-144 Overall, the estimated benefits from conservation, alternative fuels, and electrification are overly optimistic. Little evidence is provided in the plan or in background documents to support these claims.

2-145 p 4-14-1 The energy strategies of the plan relies heavily upon electrification as a source of energy and discontinuation of fossil fuels. While the section notes that this strategy will force Basin residents and businesses to rely on out-of-Basin power sources, the section does not address the possible impacts associated with this energy dependence. This issue should given more emphasis in the DEIR.

2-146 p.4-14-2 The DEIR admits that electricity that cannot be generated in the Basin by non-polluting sources will be purchased outside the Basin, but does not consider the economic impacts of such a measure (e.g., increased operating costs, availability of power outside basin). This measure could be extremely costly, with significant impacts

2-141 Your comment is correct, but regulatory review would cause emissions to be reduced through add-on controls. Reductions achieved might reduce emissions to non-significant levels.

2-142 Your comment is noted. School siting is a local issue that can address both issues as to health risk or hazards at a specific location.

2-143 The enforcement of control measures undertaken by private industry is the responsibility of the District. The district permits specify the conditions under which emission sources can operate. District's enforcement activities are funded by permit fees and fines. Enforcement of control measures undertaken by local governments is described in Appendix IV-G (May, 1988). Local government enforcement efforts can be funded by increased development fees and possibly by state reimbursement for activities required by the AQMP (state reimbursement is contingent upon the passage of state legislation). Services provided voluntarily by local governments may suffer if funding for required AQMP activities is not provided.

The District anticipates adequate funding to ensure enforcement which can be monitored on an annual basis and augmented as necessary.

2-144 Your comments are noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. The projections contained in Appendices IV A-C represent the District's best estimate for emissions reduction.

2-145 Please refer to the responses to comments 2-9 and 2-37 and to Attachment 5. Although a significant portion of the energy demand required for electrification could be met from in-Basin supply through load management techniques and generation of electricity by nonpolluting sources such as fuel cells, photovoltaic cells, and wind power, the remainder of the demand would have to be met by electricity generated outside the Basin. The use of energy conservation measures, off-peak charging of batteries, and reduced vehicle miles travelled can act to reduce energy demand and help mitigate the impacts of the Basin's dependence on out-of-Basin power supplies. Electrification is used as a benchmark, not a mandated technology. The plan does not exclude the implementation of other low-emitting technologies, if available, providing they are able to

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2-140 generation is an unavoidable adverse impact.

Others

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achieve emissions reduction equivalent to that of electrification. If electrification is the only technology able to be implemented, the energy demands will be studied in detail at the time.

2-146

Please refer to the response for comment 2-107. Currently, about 80 percent of the power used in the Basin is imported from out-of-Basin sources. The additional generating capacity from in and out of the Basin estimated in Revised Table 4-5, "Revised Electricity Supply Matrix" (see 2-9), is based solely on growth required to meet projected increases in the baseline demand. None of the resources are projected to be built in consideration of the electrification strategy. Thus, much of the economic impacts of increased power demand and generation would occur even if the electrification or other equivalent strategy were not implemented.

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2-146 upon business activity, economic growth, and the cost of living. The DEIR does not address these concerns.

p. 4-14-2 As noted, this control measure presents an ethical planning dilemma in that the increased demand for electric power by the Basin will require new generation sources out of the Basin that will likely use fossil fuels. In essence, this plan places the impacts of energy resource depletion and air quality deterioration upon the communities outside of the Basin.

Industrial Energy Use

2-148 p. 4-14-2 The District proposes that load management techniques be applied in order to mitigate increased demand for electricity. However, it should be noted that industrial processes are part of the baseload, not the peak load. An increase in baseload demand, makes peak load management more difficult, but managing peak load demand will do nothing to mitigate baseload.

Transportation: Tiers I and II

2-149 p. 4-14-6 Methanol cost economics have not been investigated in any detail.

Section 4-17 - Human Health

2-150 p. 4-17-4 It is curious that under "Alternative Fuels" in Table 4-17.1 formaldehyde is listed as only potentially adverse.

Section 4-18 - Economic Impacts

2-151 p. 4-18-1 The focus of the electrification measures seems to be to electrify anything that uses fossil fuels. Nowhere in this DEIR, the plan or the background documents, however, are the massive impacts that Basin-wide electric conversion will have on the economy addressed. Such a conversion will, inevitably, lead to a loss of jobs and businesses that are operating on the margin. Decreased Basin employment and increased demand for electricity from outside the Basin will induce a net flow of dollars and resources outside of the region, producing the regional equivalent of a massive foreign trade deficit for the Basin.

2-152 p. 4-18-1 The economic costs of pollution and benefits of control are not adequately addressed in either the plan, the background documents or the DEIR. Benefits seem to be measured in terms of gross benefits provided by each control measure, isolated from the effects of other control measures. Many of the proposed measures will indeed provide a mechanism for decrease in air emissions, but at the same time will often increase pollution in other media, thus wiping out the projected benefits.

2-147 Your comment is noted. Please refer to the responses to comments 2-9 and 2-107. Also note that the revised electricity supply matrix shown in the response to comment 2-9 does not rely on additional out-of-Basin generation resources, except for 500 to 1,000 MW of hydropower capacity from the Pacific Northwest or Canada. Additional transmission infrastructure may be needed to deliver this supply to the Basin. Though the specific amounts of capacity available from each generation source may change, it is expected that the total capacity needed can be provided. If one generation source does not achieve as much capacity as indicated in the supply matrix, further development of the other resources as noted in the response to comment 2-9, is expected to contribute the remainder.

2-148 The AQMP electrification option will require about 46,060 MW of additional generating capacity by the year 2007. This total does not include reductions achieved through SCAG control measures including reduction of vehicle miles travelled and energy conservation. Load management techniques are projected to reduce the peak energy demand by up to 60 percent. It is agreed that industrial processes are part of the base load power demand, and as such often operate continuously during peak and off-peak demand periods. The energy demand for industrial sources is much lower than that for recharging electric vehicles (EV) which could provide more efficient load management. Load management is targeted to reduce peak power demand by charging EV batteries during off-peak hours.

The goals of load management include load shifting, peak clipping, valley filling, strategic conservation, and strategic growth and flexible load shape. Some of the specific energy technologies that can achieve these goals are superconductors, solar heating and cooling, thermal energy storage, and energy conservation. Non-energy related strategies such as alternate work hours can also be used to achieve load management goals. Institution of an effective load management program is essential to mitigate increased electricity demand expected from electrification. Please refer to Attachment 5 for more information on electrification.

2-149 Please refer to Attachment 6 and Appendix IV-E (Section III) for methanol and cost information. The price range of a gallon of methanol has been revised to 35 to 80 cents. The costs of phasing out fuel oil included \$42 million for fuel storage and other one-time costs

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- 2-146 upon business activity, economic growth, and the cost of living. The DEIR does not address these concerns.
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- 2-148

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- 2-152

of conversion.

- 2-150 The designation "potential" refers to the high probability that mitigation measures outlined in response to comment 2-8 or in Attachment 6 or Appendix IV-E may be able to reduce exposure to formaldehyde below a significant level. See also Attachment 5.

Studies concerning methanol have been completed and are in progress for numerous topics including the health effects of automotive methanol vapors and formaldehyde produced by methanol. Appendix IV-E (June, 1988) discusses automotive methanol vapors and human health. The ARB is currently in the process of drafting emission standards including those for formaldehyde designed to protect human health.

- 2-151 Please refer to the responses to comments 2-145, 2-146, and 2-148. The economic costs of pollution and benefits of control are further analyzed in Appendix F. Refer to the response to comment 2-19 for a discussion of the effects of control measures on each other. Cross-media impacts of air pollution control measures are discussed in Chapter IV of the December, 1988 EIR. The existence of environmental impacts of control measures may reduce the control measures' benefits, but does not eradicate them.

- 2-152 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. The revised electrification option relies on specific electrification measures in the industrial and transportation sectors only. As a result, the overall cost of electrification has been reduced substantially. Consequently, economic impacts should also be reduced. Other media impacts have been acknowledged in response to comment 2-19 and will be further addressed during implementation.

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2-153 p.4-18-1 The DEIR notes that the manufacture of pollution control equipment will be a stimulus to the Basin's economy, but fails to note the many jobs that will be lost due to the stringent controls and increased operating costs that will force companies to close or relocate outside the Basin. It is also likely that the jobs associated with the manufacture of new pollution control equipment will take place outside the Basin due to the stringent controls on manufacturers within District jurisdiction.

2-154 p. 4-18-1 The use of the terms "gross national product" and "gross regional product" makes the introduction to Chapter 4 difficult to evaluate (pg 4-18-1).

Tier I Control Measures

2-155 p.4-18-3 The control costs cited for selected SIC codes in this section are not documented and the validity of these numbers cannot be evaluated without understanding the methodology employed to derive them and the assumptions on which they are based. Cost breakdowns for control measures are provided in greater detail in Appendix IV-A, but documentation overall is poor.

Petroleum and Natural Gas Production and Distribution

2-156 p.4-18-5 The discussion regarding control measures in this section neglects to address impacts on businesses and competitiveness. For example, the section on petroleum and natural gas production and distribution discusses the impact of fuel prices on motorists, but does not extend that impact analysis to industrial users. With control measures that (as cited in Appendix IV-A for emissions from industrial, institutional, and commercial boilers) could cost industries \$40,000 per ton of NO_x reduced, consideration of potential impacts upon the industrial sector must be made.

2-157 p 4-18-5 "General Building Contractors" and "Heavy Construction Except Building", not "Furniture and Fixtures", follow "Petroleum and Coal Products" and "Electric, Gas, and Sanitary Services".

Gas Turbine Power Generation

2-158 p.4-18-6 This section devotes much discussion to the effects of the control measures upon newsprint recyclers, but does not address more important impacts to other sectors of the economy. Again, it is highly likely that replacement power will be significantly expensive, provide little net reduction in overall emissions, and thus provide little net benefit to the Basin.

2-159 p.4-18-6 In this section and other sections on utility boilers and internal combustion engines, the DEIR notes that if these sources are no longer permitted, they will be replaced with electricity. Again, this discussion does not adequately address the severe economic

2-153 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to page F-4 of Appendix F for the District's conclusion regarding this topic.

2-154 This confusion was eliminated in the revisions to Section 4-18 in the December, 1988 EIR.

2-155 Your comment is noted. Additional supporting data are provided in Table 4-18.2 and Footnote 1 on page 4-18-47 of the December, 1988 EIR. Appendix F, released as part of the December, 1988 EIR, provides additional socioeconomic information.

2-156 Please refer to pages 4-18-9 and -10 of the December, 1988 EIR for the information requested. Appendix F provides an overall summary.

2-157 The requested revision is included on page 4-18-5 of the December, 1988 EIR.

2-158 Please refer to the revised discussion of these control measures on pages 4-18-10 thru 4-18-12 of the December, 1988 EIR. Additional information has been provided. The reason for focus on newspaper recyclers in the Draft EIR was the relatively high impact from gas turbine control measures that will affect them.

2-159 The District's economic evaluation of possible displacement of gas turbines by electricity are compiled in Appendix IV-B. The impact of higher fuel prices on commercial and industrial users is further addressed on pages 4-18-10 thru 4-18-13 of the December, 1988 EIR and Appendix F.

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2-150 impacts and transfers that would be expected to occur in industries to which these technologies are vital.

Transportation and Land Use Measures

2-160 p.4-18-10 In discussing the difficulties in developing the management skills necessary to ensure that tasks are completed under a system where workers telecommute, it is unclear how the District would influence telecommunication, given their present authority.

Growth Management

2-161 p.4-18-14 This section assumes that either (1) local governments will rezone their communities, disrupt housing and businesses, and undermine their economic base, in order to achieve "balance," or (2) inducements to relocate businesses will cause residents to relocate to be within close proximity with their places of employment. These options are not under the District's jurisdiction and are greatly influenced by personal preference. Since the cost of housing continues to escalate in the Basin, homeowners would not be expected to move, even if they currently live close to an employer that would be moving. First time home buyers who are affluent enough to buy homes in the current Basin housing market generally indicate a preference for relatively cheaper housing, and not necessarily proximity to employment, as is evidenced by the increasing number of first time buyers purchasing homes in the suburbs and commuting into the city. People willing to relocate are likely to be renters and/or people who have already shown a preference to live close to their place of employment, to drive only short distances to work, to walk, or to take public transportation. Reductions in travel due to this shift, therefore, will be slight, if any, and certainly less than projected by the plan. For home-owners that currently live in close proximity to their place of employment and/ or who cannot afford to move, vehicular miles traveled will increase if their place of employment is forced to relocate for economic reasons.

2-162

Facility Capacity Improvements

2-163 p.4-18-15 This section notes that increased air quality benefits could increase the attractiveness of the Basin as a location for future residents, thus increasing the need for housing. The probable economic depression that will accompany this improvement in air quality should be sufficient to eliminate any need for increased housing. If this were not the case, other more remote areas of the country with good air quality would be experiencing housing booms.

Energy Conservation Measures

2-164 p.4-18-16 This section discusses the conservation of energy and materials that can be realized through recycling, but does not discuss the fact that, as noted earlier in the plan, recycling efforts will become much more costly, even prohibitive, and may be abandoned by many

2-160 Please refer to the responses to comments 2-103, 2-123, 2-124, and 2-10. Also, should telecommuting not be effective, contingency control measures would have to be considered.

2-161 Please refer to the responses to comments 2-104, 2-127, 2-129, 2-10, 2-20, and 2-30. As stated, the implementation of a Plan that will achieve ambient air quality standards is a shared responsibility.

2-162 Your comment is noted, and if the scenario evolved as described, reductions in travel would not meet goals. However, the District and SCAG have outlined a different scenario in the Growth Management and Regional Mobility Plans which are major features of the AQMP. Implementation of this scenario (which will receive the full support of SCAG and the District if adopted) should produce the forecasted travel reductions.

2-163 Your comments are noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. District economic forecasts do not support your conclusion.

2-164 The proposed control measure assumes a continued demand for recycled materials, but specific implementation will determine the actual market and its elasticity. District economic impact analysis does not forecast that it will be unprofitable for business to operate in the Basin.

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operators because of other control measures that would make their operations too expensive.

2-165

This section discusses the potential benefits in the out-of-State and international markets for recycled goods, but ignores the aforementioned negative impacts of the control measures upon recycling. The cited benefits and market for recycled materials, are therefore overstated.

Economic Activity

2-166

The assertion that new technology is not needed to implement Tier I controls (coating substitutions) and that they can be implemented in five years (electrification of mobile sources) is unsupported.

p.4-18-17

The assertion that no businesses are expected to shut down is not supported by any documentation or background documents. Businesses will shut down because of their inability to find engineering solutions compatible with Tier I control requirements. This is especially true for those industries operating on the margin in highly competitive regional, state, and national markets. For example, companies affected by solvent substitution measures may not be able to compete with firms located in areas outside the Basin without such restrictions. The only businesses relatively unaffected by these strategies would be those whose market is entirely within the Basin, and for which little out-of-Basin competition exists.

2-167

The analysis of economic impacts ignores the secondary impacts of the control measures upon employment, competition, and economic growth. If the impact of each of the control measures is accurately analyzed, the analysis will show an impact that is likely to drive a large portion of economic activity out of the Basin, severely depressing the economy. In order to make the plan credible, these issues must be addressed adequately and mitigation plans offered.

2-168

Low and Moderate Income Groups

2-169

p.4-18-20

The overall depressive economic impact described here is of serious concern. The proposed methods of mitigation seem to underestimate the magnitude of impacts, and are insensitive to the importance of this situation by assuming the impacts to be "insignificant on a regional scale."

CHAPTER 8 - GROWTH INDUCING IMPACTS OF THE AQMP

2-170

p.8.1

This section briefly addresses how control measures will affect the desirability of the area, while potentially imposing severe economic hardships. This section, however, avoids any analysis of possible

2-165

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. The balance of benefits and markets will be evaluated in more detail when the control measures affecting recyclers are implemented.

2-166

The District's technical documentation (AQMP and Appendices IV-A through C) indicates that a five (5) year implementation time frame is feasible with a sufficient commitment of Basin resources and will.

2-167

Government regulation is only one of the factors that determine business location. Solvent substitution measures will affect any company whose products are sold in the Basin, regardless of its location. The fact that the local economy is booming demonstrates that local business have been successfully making necessary adjustments in light of foreign competition, government regulations, and other factors.

The technology exists for implementing most of Tier I stationary control measures. Nevertheless, shutdowns and relocations to areas outside the Basin may occur in response to the increased cost arising from the required controls. If businesses that continue to operate in the Basin (and that comply with AQMP regulations) can expand to replace this lost capacity, the Basin's output and employment may be maintained. Yet, if control costs reduce profits significantly, businesses may be induced to relocate or switch to producing a different, less pollutant product. For further discussion please refer to the Draft EIR (September, 1988), page 4-18-17. Since there is no information on the impact of control measures on business relocations, this effect can be assessed more adequately during the rule-making process.

2-168

Please refer to the December, 1988 EIR (Section 4-18) response to comment 2-167, Appendices IV A through C, and Appendix F which represents the District's conclusions regarding socioeconomic impacts. To the degree feasible at this stage of review, secondary impacts have been included in these forecasts. Your comments are noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

2-169

The economic conclusions in the Draft have been supplemented by additional data in Appendix F. The data in Appendix F support

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2-170

scenarios by noting that, "to attempt to determine which [growth inducing/reducing incentive] would be dominant would introduce undue speculation, which is not allowed under the CEQA guidelines." This argument appears weak in that CEQA guidelines were not intended to be used as an rationale for not undertaking analysis. This analysis should be performed to evaluate the range of impacts on the Basin under reasonable scenarios. Performing such analyses does not necessarily commit the District to undue speculation.

p.8-1

The first "Potentially Positive" impact described in this chapter is the inducement of more people into the area. This text is in conflict with the comment made on pg 6-2 where it says that "The plan will not cause population growth itself, but will affect location decisions."

2-171

2-170

conclusions reiterated in the December, 1988 EIR regarding regional economic impacts.

The impact analysis conducted in the EIR does not indicate whether the AQMP has more growth inducing or constraining impacts. On balance, the data in Appendix F indicate that growth will be reduced a small percentage relative to forecasted regional growth without implementing the AQMP. However, beyond this general conclusion, any attempt to assess specific growth scenarios (outside those in the 'Growth Management Plan) must rely on undue speculation on the content of such scenarios. District CEQA Guidelines Section 10.5 states: "If, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact." This was done.

2-170

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2-171

2-171

The statement on page 8-1 is taken out of context because overall (region-wide) growth will not be increased by adopting the Plan, but one of the reasons for individuals to locate in the Basin will be cleaner air.

ATTACHMENT C

Western Oil and Gas Association
Comments
on
PROJECT ALTERNATIVES
Draft Environmental Impact Report
Chapter 5

October 27, 1988

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ATTACHMENT C

EVALUATION OF PROJECT ALTERNATIVES
(SCAQMD AQMP DEIR, CHAPTER 5)

The DEIR prepared for the 1988 AQMP discusses five basic alternatives to the proposed project which was described in Chapter 2 as a plan containing strategies to meet the Federal and State ambient air standards for SO₂, NO₂, CO, ozone, lead and fine particulate matter by the year 2007. These alternatives include 1) no project, 2) partial implementation, 3) additional emissions reduction effort, 4) delayed compliance, and 5) alternative growth. The project is deemed to be superior to alternatives 1, 2, and 5 on the basis that these alternatives do not result in attainment. Alternative 3 would require additional controls beyond those necessary to attain the ambient air standards. Since the ambient air standards are set at "safe levels of exposure", this alternative is considered to be unnecessary. Finally the delayed compliance alternative is dismissed on the basis that it is not efficient.

A sixth alternative was presented in the project alternatives sections of Chapters 1 and 2 of the DEIR, which is based on a "ROG-only" strategy. Although this alternative is represented as an ROG-only strategy, it should really be described (and evaluated) as a "maximize-ROG-minimize-NOx" alternative as many ROG control measures necessarily and unavoidably entail concurrent NOx reductions (e.g., transportation control measures). However, this alternative is not discussed in the comparison of the project alternatives on pages 5-5 and 5-6 of the DEIR. A statement is made on page 2-15 of the DEIR in reference to this proposed alternative that "Emissions reductions that may be achieved under this strategy have not been fully modelled, yet it is unlikely that implementation of this strategy would permit attainment of the air quality standards." This comment represents an example of the inadequacy of the evaluation of project alternatives contained in the DEIR.

The SCAQMD uses air quality modelling to demonstrate that the proposed AQMP will achieve attainment of the ambient air standards. It would appear that this would also be the perfect basis for comparison of the alternatives and yet the SCAQMD indicates that they had not "fully modelled" the "ROG-only" alternative. In their summary of proposed ozone and CO attainment policy in November, 1987, the EPA defined a level of ambient NOx and VOC concentrations of 10:1 VOC/NOx above which the area is required to assess NOx control as part of their ozone control strategy. They further stated that States may decide to combine NOx and VOC controls to produce attainment but they must demonstrate that the ozone attainment date is no later than it would have been with a VOC-strategy. Therefore, it appears that

- 2-172 The District has modeled this option as noted in responses to comments 2-1, 2-15, and 2-21 and in Attachments 1 and 2.
- 2-173 Please refer to the response for comment 2-172.
- 2-174 Please refer to Attachments 1 and 2.

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- 2-174 comparative modelling of these two strategies must be done to comply with the EPA concerns. In addition, WOGA suggests that it is necessary that the project alternative evaluations presented in Chapter 5 be expanded to include a comparison of ambient air concentrations resulting from their implementation, economic and socio-economic impacts, cost-effectiveness of the overall plan, health benefits, and impacts outside of the SoCAB.
- 2-175 We believe that such a comparison would allow the public, government agencies, environmentalists, industry, other regulatory agencies and the Board to compare and evaluate the reasonably available alternatives. This is especially true of a project of the complexity and potential wide-ranging impacts of this proposed AQMP.
- 2-176 While the AQMP may be one path to clean air, it may not necessarily be the only path. Other paths may also exist and should be examined. In view of the significant socio-economic impacts of the AQMP's implementation, the DEIR should seek to determine whether other such paths exist and, if so, what their impacts would be in comparison to that of the proposed plan.
- 2-177 A significant fraction of the SoCAB emission inventory is attributable to mobile sources, specifically, 52, 72, and 96 percent of ROG, NOx, and CO in 1985, and 39, 74, and 96 percent of baseline (no AQMP) ROG, NOx, and CO emissions, even in 2010. Because of this, one alternative clean air path might place greater emphasis on "cleaner" cars and trucks, accelerating and intensifying inspection and maintenance and anti-tampering programs, tightening motor vehicle tailpipe emission standards, and installing more effective, durable on-board vehicle emission control equipment, backed up by more comprehensive and longer factory warranties for such equipment. Realizing an aggressive program of car and truck emission reduction improvements beyond those in the AQMP could substantially reduce the need for AQMP Tier II and Tier III control measures.
- 2-178 Further, reducing the degree of NOx emission reductions sought or, even if the same reductions are sought, phasing them in over a longer period of time than assumed by the AQMP may produce ozone air quality benefits in terms of more rapid ozone reduction, less ozone exposure, and lower ozone health risk. To illustrate that point, attached as Figure C-1 is a graphical illustration of four potential paths to clean air. This figure indicates the theoretical trend of peak ozone concentrations as a function of time from 1985 through 2010 with the base case representing implementation of the proposed ROG and NOx control measures identified in the draft AQMP on the dates assumed by SCAQMD and CARB. The data shown is not from actual modelling runs but represents the theoretical trend of ozone concentration reductions for such scenarios.
- 2-175 Your comments are noted and Attachment 1 summarizes the alternative issues.
- 2-176 Please refer to Attachment 1.
- 2-177 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.
- 2-178 Please refer to Attachments 2 and 3 which address this issue.

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However, this figure does provide an example of a means of comparison of the air quality impacts and health benefits of project alternatives, which, as noted above, are two of several parameters that should be used to provide adequate information for evaluation of the alternatives to the project.

Although it does not evaluate it, the DEIR identifies a "ROG-only" project alternative. We recognize that a truly ROG-only strategy may not be technologically feasible, since some ROG control measures necessarily reduce NOx concurrently. We also recognize that the AQMP seeks to reduce not just ozone, but also NO2 and PM10. However, ROG controls, implemented primarily for ozone, also will reduce NO2 and the nitrate fraction of PM10, reducing the need for NOx control. A strategy that maximizes ROG control, while limiting NOx control to the minimum necessary for technological and other air quality reasons (taking into account the beneficial effects of ROG control), might yield an alternative, less costly clean air path to that in the AQMP. Such a ROG-emphasis strategy, which might implement only those control measures that are "mostly ROG" in nature and avoid those that are "mostly NOx", should be evaluated in the DEIR.

2-179

Refer to the response to comment 2-172 and to Attachments 1 and 2.

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CEQA Requirements and the Draft EIR

The fundamental purpose of CEQA is to ensure that a decisionmaker is fairly apprised of all potentially significant adverse environmental consequences, prior to approving a project, so that the decisionmaker can incorporate into the project all feasible mitigation measures or alternatives to reduce potential environmental impacts to an insignificant level. Pub. Res. Codes §§ 21002.1 and 21061; 14 C.C.R. § 15002(a). Accordingly, CEQA requires an EIR to "systematically review both the significant feasible mitigation measures which will avoid or substantially lessen such significant effects." Pub. Res. Code § 21001. Moreover, the California Legislature has declared:

"It is the policy of the state that projects to be carried out by public agencies be subject to the same level of review and consideration under (CEQA) as that of private projects required to be approved by public agencies." Pub. Res. Code § 21001.1.

The 1988 AQMP is the single most important activity ever undertaken by the District. It will significantly impact the environmental, economic and social well-being of the citizens of this air basin, as well as other areas, for the next 20 years. It is imperative under these circumstances that all such consequences be adequately evaluated in the EIR, before the AQMP is adopted. Yet the draft EIR is superficial at best and utterly fails to measure up to the CEQA standards.

An adequate EIR must identify and evaluate the potential adverse effects on all aspects of the environment. This includes:

"the resources involved, physical changes, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development) health and safety problems and other aspects of the resource base such as water, scenic quality and public services." (14 C.C. R. § 15126. See also District CEQA Guidelines § 9.6.)

As lead agency, the District bears a heavy responsibility to ensure that the EIR review all these issue areas, not just those within the District's area of expertise. Pub. Res. Code § 21001.1(d). Thus, non-air quality environmental impacts must be quantified and evaluated to the same degree as impacts on air quality. If the draft EIR fails to adequately discuss non-air impacts, then other state and local agencies, as well as the public and affected industries, may not

2-180 Please refer to the response to comment 2-12 and to the Executive Summary Introduction.

2-181 The District's AQMP EIR (consisting of the December, 1988 EIR, the Appendices, this Addendum, and the Executive Summary) present an evaluation of potential adverse impacts to each environmental issue at a level of detail commensurate with the Plan adoption which in and of itself has no direct impact on the environment. Implementation of control measures is the appropriate point for analyzing detailed impacts as discussed in the Executive Summary.

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be alerted to potential problem areas and will be deprived of the opportunity to contribute meaningfully on the development of the AQMP. Even more importantly, however, since the District has no special expertise outside of air quality, without complete analysis in the EIR, the Board at worst would be regulating without regard to non-air impacts, and at best would be regulating based on intuition rather than quantitative analysis. This approach would violate CEQA. The fundamental purpose of the EIR process would be undermined if a specialized agency, such as the District, could dismiss all non-air environmental impacts merely by adopting a Statement of Overriding Considerations.

As lead agency, the District also has the duty to consider all potentially adverse environmental impacts even if they would occur outside its geographic jurisdiction. Pub. Res. Code § 21002.1. The EIR repeatedly fails to meet this CEQA standard. For example, attainment strategies which require increased electrification of equipment to reduce fuel burning sources or motor vehicles presume that the increased electrical demand will be met by power generation outside the District; however, the DEIR fails to quantify and evaluate -- or even to mention -- environmental impacts associated with these proposals.

Lastly, environmental impacts must be evaluated in sufficient detail. The degree of specificity required by CEQA depends upon the nature of the proposal. 14 C.C.R. § 15146. In the case of the AQMP, the issues are very complex and the proposed attainment strategies will be extremely costly. Accordingly, the EIR must be sufficiently detailed and as accurate as possible to support a decision of this consequence. Moreover, since the AQMP sets forth the District's program for attaining federal standards, which will shape regulatory actions for the next 20 years, it is likely that the District will incorporate the analysis in the AQMP EIR into numerous EIRs in the future for rules or policies implementing the AQMP. Thus any error in the AQMP EIR may snowball; an inadequate analysis could make the District's entire regulatory program a house of cards.

2-182

The supplemental information in this Addendum (specifically, responses to comments 2-9 and 2-13) provide information on out-of-Basin impacts.

2-183

Please refer to the responses to comments 2-12 and 2-181 and to the Executive Summary Introduction regarding the appropriate level of detail for a planning document. The District is aware that supplemental environmental information will have to be provided when control measures are considered for implementation in the future.

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SOUTHERN CALIFORNIA GAS COMPANY

OCT 27 1988

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RESPONSE TO COMMENTS
SOUTHERN CALIFORNIA GAS COMPANY (10/27/88)
COMMENT LETTER #3

October 27, 1988

Ms. Suzanne Reed
Special Project Coordinator
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

Dear Ms. Reed:

On Monday, October 24th, Southern California Gas Company presented testimony at the SCAQMD/SCAG public hearing on the 1988 Draft Air Quality Management Plan. At that forum, SoCalGas submitted into the public record ten copies of comment overview and stated that our full comment package would be submitted to the District by October 27th. Enclosed with this correspondence are ten sets of SoCalGas' comments and appendices on the draft AQMP.

We welcome this opportunity to participate in this public process focusing on the many policy options that can address the basin's air quality problems. Also, SoCalGas representatives are available to meet with District staff at any time during the comment review period to assist in any way we can.

Sincerely,

Anne Smith / smi2

AS:GMG:asq
Encls.

cc: Carolyn L. Green
James M. Lents
Alan C. Lloyd

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**SOUTHERN CALIFORNIA
GAS COMPANY**

**Comments on the
South Coast Air Quality Management District's
Draft 1988 Air Quality Management Plan**

October 24, 1988

000154

I. OVERVIEW OF COMMENTS

000365

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000156

I. OVERVIEW OF COMMENTS

RESPONSE TO COMMENTS SOUTHERN CALIFORNIA GAS COMPANY (10/27/88) COMMENT LETTER #3

The Southern California Gas Company (SoCalGas) welcomes this opportunity to comment on the South Coast Air Quality Management District's (the District) draft 1988 Air Quality Management Plan (AQMP).

The issue of improving air quality has become one of the most pressing environmental policy challenges of the southern California region.

A thorough and open examination of public policy options to address the region's air quality problems is necessary in order to develop an adequate and fair plan to solve those problems. SoCalGas commends the District's intent, through these hearings, to consider the views of the public and other interested parties.

SoCalGas believes that attainment of improved air quality for all the citizens of the South Coast Air Basin (the basin) is a very important goal. And SoCalGas supports the District's efforts, through the development of the draft 1988 AQMP, to attain the clean air standards required under the federal Clean Air Act.

We believe that it is especially important for the District to develop a realistic AQMP. Now is the time for local, state and federal governmental agencies to cooperate in the development and implementation of a realistic plan with a realistic time frame for improving air quality in the basin.

Background:

Historically, SoCalGas has been committed to the goal of clean air and has demonstrated that commitment by helping to improve air quality in the Los Angeles and surrounding areas.

As the largest natural gas distribution company in the nation, SoCalGas has been among the industry's leaders in low emission natural gas fired equipment. Many of these natural gas applications are strongly preferred by both industry and the public, and have helped to substantially reduce emissions from existing stationary sources. At the same time, they have helped to maintain the vitality of the commercial and industrial sector, thus preserving important economic opportunities for all the residents of the basin.

We are proud of our successes in helping to provide low cost, low emission and high efficiency industrial turbines, boilers, engines and heaters to support the economic infrastructure of the region. We are also proud of our successes in helping to provide low cost, low emission and high efficiency residential appliances to fulfill the basic home energy needs of the over 4 million households in our service territory.

3-1

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

Gas industry research and development efforts are making it possible:

- o to reduce previously uncontrolled emissions from small boilers by 64% using flue gas recirculation.
- o to reduce previously uncontrolled emissions from large scale boilers by almost 64% using low NOx burners.
- o to reduce previously uncontrolled emissions from gas turbines by nearly 90% using selective catalytic reduction.
- o to reduce previously uncontrolled emissions from internal combustion engines by almost 90% using lean burn combustion.
- o to reduce previously uncontrolled emissions from water heaters by over 40% using high efficiency water heaters.

But while our past efforts have helped to significantly reduce emissions, the seriousness of the air quality problem today continues to command our attention and strengthen our commitment to further improve the emissions characteristics of natural gas applications. SoCalGas remains committed to extensive research to develop lower emission, higher efficiency natural gas equipment.

The Role of Natural Gas:

Natural gas can and should continue to play a constructive role in improving air quality. Increased use of natural gas is part of the solution to air pollution in southern California.

Currently, natural gas is the most energy efficient, cost effective, and most environmentally benign of all fossil fuels. It also is in plentiful supply.

In most applications, the emission of criteria pollutants by natural gas combustion -- reactive organic gases (ROG), nitrogen oxides (NOx), carbon monoxide (CO), sulfur oxides (SOx), and particulate matter (PM10) -- remains far below the emissions levels of most other fuels.

Nationally, natural gas has earned a new-found respect as part of the solution to air pollution. Legislation currently before Congress encourages increased use of natural gas as a means of reducing harmful emissions.

Additionally, new concern over the greenhouse effect has placed natural gas in a favorable light because the carbon dioxide emissions from natural gas are lower than most other fuels.

SoCalGas strongly believes that the environmental attributes of clean burning natural gas should allow it to remain a preferred energy choice in the Los Angeles basin.

i-2

Your comment is noted and will be forwarded to the District Board for consideration. A discussion of natural gas can be found in the December, 1988 EIR, pages 4-14-9 to 4-14-22.

00000000

NOx Reduction:

Building on our past efforts, SoCalGas remains involved in the development of new technologies to further reduce stationary source NOx emissions from natural gas equipment. Examples of these efforts are summarized below:

- o We have initiated a new research program to develop ultra low NOx burners for the industrial and electric utility generation (UEG) boiler markets.
- o We are working with a manufacturer of new gas engine driven systems for the cogeneration and cooling market to investigate more cost effective catalytic systems to reduce engine emissions.
- o We are working directly with another company to identify catalytic materials for a low NOx combustor for large gas turbines in order to develop a gas turbine that can achieve current NOx emission standards at a fraction of the cost of select catalytic reduction (SCR) technology.
- o We are currently examining several proposals to combine low NOx burner technology into small packaged boiler systems for the commercial market.
- o We are supporting research efforts conducted by the Gas Research Institute (GRI) in the area of oxygen enrichment, expected to substantially reduce emission in industrial processes like glass manufacturing.

SoCalGas estimates that these new technologies are capable of reducing emissions up to 90% from what was possible just five years ago, while at the same time increasing efficiency and reducing operating costs.

SoCalGas remains committed to the development of NOx reduction technologies such as these in order to allow natural gas to continue to play a constructive role in improving air quality.

Natural Gas Vehicles:

Another important area in which natural gas has an important role to play in improving air quality is in helping to reduce mobile source emissions. Everyone, including the District, appears to agree that mobile sources remain the greatest source of air pollution, and their continued growth exacerbates the problem. Any serious effort to control air pollution must focus on mobile source emission reductions.

SoCalGas believes that the use of compressed natural gas (CNG) and the development of natural gas vehicles (NGV), especially for fleet vehicle and urban transit bus applications can play a major role in reducing controlled emissions from vehicular sources.

The use of NGV's in the Los Angeles basin has the potential to reduce per vehicle NOx emissions by up to 65% and ROG emissions by up to 85% from the current emission levels of gasoline and diesel vehicles.

SoCalGas plans to purchase a number of light duty NGV's for demonstration and research purposes by late 1989, and has embarked upon a program with the Los Angeles County Transportation Commission to convert 10 diesel buses to natural gas and begin field tests in 1989. All of these vehicles will operate on CNG with engine modifications to achieve optimum performance and emission reductions.

Fuel Cells:

Finally, natural gas can play an important role in future non-combustion energy development. New technologies, such as the fuel cell which uses natural gas as a fuel in a non-combustion chemical process to generate heat and electricity, can help improve air quality over the long term. Fuel cells could reduce NOx emissions by 99.5% over existing low NOx technologies.

SoCalGas has years of experience with early generation fuel cells, and is committed to the development and commercialization of natural gas fuel cell technology. We have contracted to purchase 10 fuel cells in the first commercialization phase of fuel cell technology. The first units are expected to be available in 1991.

The Air Quality Management Plan:

While SoCalGas remains optimistic about efforts to improve air quality in the Los Angeles basin and about the role natural gas can play as part of the solution to air pollution, SoCalGas remains very concerned about the policy direction of the draft 1988 Air Quality Management Plan. More specifically:

1. We believe that the AQMP review process has been inadequate, and that documentation of the methodological approach of the AQMP is flawed.
2. We also believe that many of the proposed policies contained in the AQMP do not adequately address the economic and social impact of control measures on the quality of life in southern California.
3. Further, we believe that the AQMP treats emission sources inequitably, and fails to seriously address viable mobile source control measures, including natural gas vehicles.
4. Finally, we believe that the long term policies in the AQMP are designed to replace all fossil fuel use in the basin with electricity, which would necessitate significant new electric generation capacity, essentially exporting our pollution problems. This, we believe, is not a responsible solution to air pollution.

These four points are addressed in the sections below:

3-3

Your comment is noted. CEQA Section 15087 (c) permits public review periods ranging from 30 to 90 days with a standard 45 - day review period for most documents. To date the AQMP EIR has been available for comment a total of 104 days. The dates are as follows:

- a) September 12, 1988 to October 27, 1988 -- Initial 45-day review of the Draft AQMP EIR
- b) December 2, 1988 to December 16, 1988 -- 14-day review period for the December 1988 EIR
- c) December 19, 1988 to February 1, 1989 -- 45-day review period for the December 1988 EIR

The public review and comment period for the AQMP EIR exceeds that required by CEQA and CEQA Guidelines.

The methodologies used to model the future emissions are contained in the following documents:

000070

SoCalGas plans to purchase a number of light duty NGV's for demonstration and research purposes by late 1989, and has embarked upon a program with the Los Angeles County Transportation Commission to convert 10 diesel buses to natural gas and begin field tests in 1989. All of these vehicles will operate on CNG with engine modifications to achieve optimum performance and emission reductions.

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- 3-3 1. We believe that the AQMP review process has been inadequate, and that documentation of the methodological approach of the AQMP is flawed.
- 3-4 2. We also believe that many of the proposed policies contained in the AQMP do not adequately address the economic and social impact of control measures on the quality of life in southern California.
- 3-5 3. Further, we believe that the AQMP treats emission sources inequitably, and fails to seriously address viable mobile source control measures, including natural gas vehicles.
- 3-6 4. Finally, we believe that the long term policies in the AQMP are designed to replace all fossil fuel use in the basin with electricity, which would necessitate significant new electric generation capacity, essentially exporting our pollution problems. This, we believe, is not a responsible solution to air pollution.

These four points are addressed in the sections below:

Appendix III-B -- Future Baseline Emissions, South Coast Air Basin

Appendix III-C -- PM10 Emissions Inventory and Forecast, South Coast Air Basin

Appendix III-D -- Baseline Projection

Appendix IV-D -- Discount Cash Flow Method as Applied to the Cost Analysis of Control Measures

3-4 Your comment is noted. Please refer to the December, 1988 EIR, pages 4-18-1 to 4-18-47 and Appendix F - Response to Comments on the Socioeconomic Impacts of the Air Quality Management Plan. The detailed impacts of control measures will be addressed during the rule-making process. Please refer also to the response for comment 2-12.

3-5 Your comment is noted and will be forwarded to the District Board for consideration. The District recognizes the importance of regulating both stationary source and mobile source emissions to achieve federal air quality standards. Thus, the AQMP contains control measures for both stationary and mobile sources. An expanded discussion of alternative fuels, including natural gas as an alternate fuel, is provided on pages 4-14-9 through 4-19-22 of the December, 1988 EIR.

3-6 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Natural gas is forecasted to continue playing a major role in California's energy future. However, for many energy-consuming uses, such as power generation and transport, fossil fuels are scheduled to be restricted or eliminated from use in order to meet federal ambient air quality standards.

000071

1. The AQMP Development:

3-7

In order to achieve significant air quality improvements, a coordinated effort among government, industry and the public will be necessary.

Unfortunately, the draft AQMP reflects an apparent failure on the part of government to adequately coordinate efforts with industry and the public. The final draft of the AQMP has only been released since September. Documentation to the AQMP has been difficult to obtain, while discussions with staff have been confusing and material has not always been provided in a timely fashion.

After review of the draft AQMP, SoCalGas believes that the AQMP is too narrowly aimed at simply achieving current emission standards rather than being focused on the broader objective of managing long term improvement in overall air quality. This results in two shortcomings:

3-8

a) The possibility of new regulations which could significantly change the nature of control measures is overlooked. This is important to note at a time when increasing concern for the greenhouse effect is encouraging interest in monitoring and/or controlling carbon dioxide emissions.

3-9

b) Technical issues are overemphasized relative to implementation. This technical focus includes the three tiered approach to control measures aggregated by technological readiness which overlooks the social, economic and political feasibility of implementation. It is one thing to plan for a control measure, it is quite another to successfully implement it.

3-10

The draft AQMP contains 70 control measures which are to be implemented by District rule adoption between 1989 and 1993. Many of these place stringent emission controls on most gas end uses in SoCalGas' industrial and commercial markets. The AQMP also contains 48 measures to be implemented variously by local government, transportation agencies and state and federal agencies between 1989 and 1995. In many instances the AQMP does not identify an implementation date for these measures, and the District has no control over implementation. Many of these measures can more effectively reduce emissions than the more easily enacted District rules.

3-11

SoCalGas is concerned that some of the measures that will have the greatest direct impact on natural gas markets can be implemented in the short term by the District, while other control measures which could be more effective and economical in reducing emissions, cannot be implemented by District and may or may not be implemented by local and state government over time.

3-12

Another problem with the development of the control measures outlined in the AQMP is that they address average day emissions rather than peak day emissions which is the goal of the Clean Air Act. One of the goals of the clean air efforts should be to reduce peak day concentrations. This would require a variety of possible cost effective management approaches such as altering seasonal, daily and regional operating practices, all of which are overlooked by the AQMP.

3-7

Your comment is noted. Please refer to the response for comment 3-3. Furthermore, all of the appendices to both the EIR and AQMP have been available since December 19, 1988.

3-8

Your comment is noted. According to Section 15147 (b) of CEQA, the EIR need not engage in speculative analysis of the environmental consequences for future and unspecified actions. Any attempt to assess the impacts of new regulations not included as part of the Plan would be speculative in nature. The AQMP is a dynamic document that can be amended when changes or additions to regulations are adopted by federal or state legislatures. In addition, the issue raised will be revisited during the rule-making process.

3-9

Your comment is noted. The intent of the AQMP is to achieve federal air quality standards by the year 2010. Although the District recognizes that the implementation time frames for the three tiers will be difficult to meet, these time frames are not considered unrealistic. Please refer also to the response for comment 2-10.

3-10

Your comment is noted. Implementation time frames for Tier I measures can be found in the AQMP, pages 6-6 to 6-17. Please refer also to the response for comment 2-10.

3-11

Your comment is noted. Please refer to the response for comments 2-10, 2-20, and 2-30.

3-12

Controls on pollution are required throughout the year because of the extent, distribution, and seasonal variation of air pollution throughout the Basin. The focus on peak-day concentrations for ozone and PM 10 is outlined in Chapter 5 of the AQMP. The most significant concentrations of ozone occur in the summer; however, in the winter

1. The AQMP Development:

In order to achieve significant air quality improvements, a coordinated effort among government, industry and the public will be necessary.

Unfortunately, the draft AQMP reflects an apparent failure on the part of government to adequately coordinate efforts with industry and the public. The final draft of the AQMP has only been released since September. Documentation to the AQMP has been difficult to obtain, while discussions with staff have been confusing and material has not always been provided in a timely fashion.

After review of the draft AQMP, SoCalGas believes that the AQMP is too narrowly aimed at simply achieving current emission standards rather than being focused on the broader objective of managing long term improvement in overall air quality. This results in two shortcomings:

a) The possibility of new regulations which could significantly change the nature of control measures is overlooked. This is important to note at a time when increasing concern for the greenhouse effect is encouraging interest in monitoring and/or controlling carbon dioxide emissions.

b) Technical issues are overemphasized relative to implementation. This technical focus includes the three tiered approach to control measures aggregated by technological readiness which overlooks the social, economic and political feasibility of implementation. It is one thing to plan for a control measure, it is quite another to successfully implement it.

The draft AQMP contains 70 control measures which are to be implemented by District rule adoption between 1989 and 1993. Many of these place stringent emission controls on most gas end uses in SoCalGas' industrial and commercial markets. The AQMP also contains 48 measures to be implemented variously by local government, transportation agencies and state and federal agencies between 1989 and 1995. In many instances the AQMP does not identify an implementation date for these measures, and the District has no control over implementation. Many of these measures can more effectively reduce emissions than the more easily enacted District rules.

SoCalGas is concerned that some of the measures that will have the greatest direct impact on natural gas markets can be implemented in the short term by the District, while other control measures which could be more effective and economical in reducing emissions, cannot be implemented by District and may or may not be implemented by local and state government over time.

Another problem with the development of the control measures outlined in the AQMP is that they address average day emissions rather than peak day emissions which is the goal of the Clean Air Act. One of the goals of the clean air efforts should be to reduce peak day concentrations. This would require a variety of possible cost effective management approaches such as altering seasonal, daily and regional operating practices, all of which are overlooked by the AQMP.

months, concentrations of carbon monoxide and oxides of nitrogen are the highest near the coastal regions, and concentrations of particulate matter are high in the eastern portions of the Basin during the summer and in the coastal and Orange counties in the winter.

As individual control measures are considered at the time of rule development, time and place controls will be considered. Currently, concepts relating to temporal and seasonal control measures are included as contingency measures to the AQMP, CM 88-T-8.

000073

3-13

Finally, there remains some uncertainty over the accuracy of the emissions inventory, and applicability of the Urban Airshed Model (UAM) used to assess control strategies.

3-14

SoCalGas' review of customer billing and customer equipment information indicates that the AQMP emissions inventory may have overestimated future stationary source NOx emissions by up to 88%. This appears due to the failure of the AQMP to account for emissions reductions achieved through previously adopted regulations. Additionally, two recently completed testing programs on automobiles conducted for the EPA and the Air Resources Board (ARB) indicate that vehicle ROG emissions may be underestimated by 200% to 1000%. These results clearly cast doubt on the validity of the AQMP emissions predictions.

3-15

SoCalGas believes that the key to broad public and industry acceptance of the AQMD and cooperative implementation of future air quality efforts by the District is to open up the decision making process to involve interest groups across the political spectrum. Including other government agencies, industrial groups and environmental organizations early in the process is vital to building consensus on the extent of the problems and the possible solutions, as well as building consensus for implementation.

2. Economic and Social Impact:

3-16

Measures to improve air quality must take into account the full impact on the quality of life for all citizens. The draft AQMP has the potential to vastly alter the social and economic structure of the entire Los Angeles basin. It may eliminate jobs, dictate where people live and work, and even determine what products people can buy. Such sweeping measures can be contemplated only after complete examination of all available alternatives to achieve clean air goals.

3-17

Unfortunately, the control measures that are proposed are not adequately analyzed and compared. Cost effectiveness data are presented only for a limited number of short term measures.

3-18

At best the AQMP provides incomplete economic data on costs and benefits. It cites a cost of \$.65/person/day and a benefit of \$2/person/day. Yet the \$2 benefit results from implementation of all measures in Tier I, II, and III, and the cost of \$.65 is based on implementation of only some of the measures in Tier I.

3-19

SoCalGas conducted its own research, using the Bureau of Census Survey of Manufacturers for 1982, updated to 1987, and determined that the net effect on the local economy of just the Tier I and II stationary source NOx controls measures will be a significant reduction of added industrial value. We project that the local economy would lose \$2.5 billion annually by the year 2007 due to these controls. The net present value of this cost is \$3.90 per person per day. This also translates into the loss of 49,500 jobs.

3-20

Unfortunately, the AQMP simply fails to account for the practical cost limits of control measures. Businesses in the air basin already suffer a cost disadvantage compared to competitors outside the basin. Many have threatened to shut down or relocate outside the basin rather than face additional controls which would further diminish their competitive position.

3-13

It is the District's understanding that the 1985 emissions estimate for stationary source NOx emissions was similar to the one determined independently by Southern California Gas; the significant difference was in the forecast of emissions. It is understood that there is a large degree of uncertainty associated with the projection. Please refer to Attachment 9 for additional discussion of modeling and models used in support of the AQMP.

3-14

Please refer to the response for comment 3-13.

Emission controls resulting from previously adopted rules are included in the form of control factors for each control category. The forecast of emissions, presented in Appendix III-B, includes control factors developed for rules adopted prior to January, 1985 in addition to the new set of control factors developed for rules adopted between January, 1985 and December, 1987.

The District has not reviewed either of the referenced studies. If it is clearly demonstrated that the emissions from automobiles have been significantly underestimated, then the revised estimates will be included in the emissions inventory. The emissions inventory is continuously being updated and revised as more current data become available and/or as the methodology for estimating emissions is improved. The ARB, having conducted the study, is aware of the issue and will be addressing this and other issues in a Board hearing scheduled for 1989. Additional research studies are being funded to pinpoint the magnitude and causes of running loss emissions and to determine any technological solutions which might be needed..

3-15

Your comment is noted. The 1988 AQMP development and review process represents the AQMD's most ambitious public outreach effort to date. AQMD and SCAG staff have held over 150 briefings since June 30, 1988 on the preliminary and draft plan. These briefings targeted elected officials and staff, other agencies, business interests,

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3-13

Finally, there remains some uncertainty over the accuracy of the emissions inventory, and applicability of the Urban Airshed Model (UAM) used to assess control strategies.

3-14

SoCalGas' review of customer billing and customer equipment information indicates that the AQMP emissions inventory may have overestimated future stationary source NOx emissions by up to 88%. This appears due to the failure of the AQMP to account for emissions reductions achieved through previously adopted regulations. Additionally, two recently completed testing programs on automobiles conducted for the EPA and the Air Resources Board (ARB) indicate that vehicle ROG emissions may be underestimated by 200% to 1000%. These results clearly cast doubt on the validity of the AQMP emissions predictions.

3-15

SoCalGas believes that the key to broad public and industry acceptance of the AQMD and cooperative implementation of future air quality efforts by the District is to open up the decision making process to involve interest groups across the political spectrum. Including other government agencies, industrial groups and environmental organizations early in the process is vital to building consensus on the extent of the problems and the possible solutions, as well as building consensus for implementation.

2. Economic and Social Impact:

3-16

Measures to improve air quality must take into account the full impact on the quality of life for all citizens. The draft AQMP has the potential to vastly alter the social and economic structure of the entire Los Angeles basin. It may eliminate jobs, dictate where people live and work, and even determine what products people can buy. Such sweeping measures can be contemplated only after complete examination of all available alternatives to achieve clean air goals.

3-17

Unfortunately, the control measures that are proposed are not adequately analyzed and compared. Cost effectiveness data are presented only for a limited number of short term measures.

3-18

At best the AQMP provides incomplete economic data on costs and benefits. It cites a cost of \$.65/person/day and a benefit of \$2/person/day. Yet the \$2 benefit results from implementation of all measures in Tier I, II, and III, and the cost of \$.65 is based on implementation of only some of the measures in Tier I.

3-19

SoCalGas conducted its own research, using the Bureau of Census Survey of Manufacturers for 1982, updated to 1987, and determined that the net effect on the local economy of just the Tier I and II stationary source NOx controls measures will be a significant reduction of added industrial value. We project that the local economy would lose \$2.5 billion annually by the year 2007 due to these controls. The net present value of this cost is \$3.90 per person per day. This also translates into the loss of 49,500 jobs.

3-20

Unfortunately, the AQMP simply fails to account for the practical cost limits of control measures. Businesses in the air basin already suffer a cost disadvantage compared to competitors outside the basin. Many have threatened to shut down or relocate outside the basin rather than face additional controls which would further diminish their competitive position.

3-16

technical and professional organizations, environmental groups, and community groups representing a range of concerns and interests. The AQMD also has mounted an aggressive media campaign to make sure the general public is aware of the proposed 1988 AQMP revision and overall agency air pollution control efforts.

It should be noted that adoption of the AQMP does not mean the end of the public's involvement in air quality planning issues. In setting the plan adoption hearing date, the AQMD Board directed staff to work with SCAG staff to propose the establishment of regional task forces to help develop a framework for incorporating such considerations as jobs/housing balance, socioeconomic impact analysis and public participation/public education into the ongoing plan implementation and revision process. Such task forces, which would report back to the AQMP Board within 9 to 12 months, would supplement ongoing AQMD and SCAG advisory groups and public outreach activities. The task forces would include, at a minimum, representatives of large and small business, labor unions, ethnic minorities, academic and research institutions, homeowner and community groups, other agencies, and local governments.

In response to the request for an additional public hearing in the City of Los Angeles, the AQMD Board scheduled the final AQMP hearing for December 16 in the Los Angeles County Board of Supervisors Hearing Chambers in downtown Los Angeles. The Board selected this facility, which is accessible by public transportation, to ensure that all persons could attend.

Finally, although the AQMP does not address toxic or hazardous air pollutants, the AQMD recognizes the need to improve its ability to respond to requests for information and assistance. Possible improvements to the complaint lines are being investigated so that the public can reach AQMD staff and receive answers to questions more quickly.

Your comment is noted. Please refer to the December 1988 EIR, pages 4-18-1 to 4-18-47 and to Appendix F which discusses the socioeconomic impacts of the AQMP. Please refer also to

3-13 Finally, there remains some uncertainty over the accuracy of the emissions inventory, and applicability of the Urban Airshed Model (UAM) used to assess control strategies.

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Attachment 1 which addresses your comment regarding alternatives to the Plan. Jobs/housing balance is a strategy aimed at new employment only.

3-17 Your comment is noted. Since Tier II measures require commercialization of existing technology, and Tier III relies on technologies yet to be developed, cost estimates for these control measures will be developed as the technology becomes available. Some Tier I measures require additional investigation to determine their more detailed costs. Detailed analyses will be provided during the rule-making process to assess cost effectiveness. Please refer to the response for comment 2-12.

3-18 Please refer to the response for comment 1-19. See also pages 4-18-1 through 4-18-7 and Appendix F of the December, 1988 EIR.

3-19 The conclusions of your study are noted. Without knowing the assumptions and other details of Southern California Gas Company's model, an evaluation and comparison to the District's model and results (contained in Appendix F) cannot be made. The District invites Southern California Gas to share this information so that comparisons can be made.

3-20 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

3-21 SoCalGas customers have expressed serious concerns over the increasing cost of using gas equipment and the uncertainties related to future regulation requiring additional equipment changes. As an example of these costs, to comply with just one SCAQMD rule, SoCalGas' Aliso Canyon facility will be required to spend over \$20 million in the replacement of gas turbines.

3-22 The AQMP also appears to be based on economic growth projections that are suspect. For example, the AQMP projects an annual growth rate of .5% for the stone, clay and glass industry, and 1.2% for the metal industry. In fact, over the past decade both industry segments experienced sharp declines -- 12% decline for stone, clay and glass, and 26% decline for primary metals.

3-23 Clearly, the accuracy of the data used to project air pollution problems must be verified or modified. A more sound assessment of the full range of impacts that could result from implementation of the control measures proposed in the AQMP is necessary. Finally, a more complete description and comparison of impacts is required in order to improve the likelihood of implementing the AQMP.

3. Mobile Versus Stationary Sources:

The time has come for stronger mobile source emission control measures. Past stationary source emission controls have provided for reductions in air pollution in the basin. Mobile sources now account for a larger share of the air pollution problem, and should be a larger part of the solution.

3-24 Yet the list of control measures identified in the AQMP demonstrates a continued reliance on mandated across the board emission reductions from local industries and stationary sources while only proposing long term incentives to achieve reductions from most mobile sources. This approach seems simplistic and inequitable, especially considering that mobile source control measures may be more effective and less disruptive to the economy than stationary source controls.

3-25 SoCalGas strongly believes in equity as a regulatory principle in source emission control. Yet the AQMP fails to equitably balance the burden of emission controls between mobile and stationary sources. According to the AQMP mobile sources contribute 52% of the ROG, 72% of the NOx, 96% of the CO and 54% of the SOx, but mobile source emission controls under Tier I of the AQMP account for only 37% of total ROG reductions, 63% of total NOx reductions, 90% of total CO reductions, and 20% of total SOx reductions.

3-26 The AQMP simply does not seriously address viable mobile source control measures. Most mobile source reductions are relegated to the long term, and are designated for implementation by agencies other than the District. Additionally, obvious measures such as increasing fuel efficiency standards for automobiles are not even considered by the AQMP.

3-27 Of particular concern to SoCalGas is that the AQMP overlooks the strong potential for using CNG and developing NGVs as a viable mobile source control measure.

3-21 Your comment is noted. Without further details on this specific situation an evaluation of and comparisons to the District's model and results cannot be made. See also the Introduction to the Executive Summary and the response for comment 2-12.

3-22 Although the stone, clay, and glass industry and the metals industry both experienced declines from 1972 to 1984, they have expanded from 1984 to 1987. Consequently, these industries were projected to expand during the term of the AQMP. In addition, the growth of these industries is coupled with an economic forecast for the year 2007 which shows substantial growth in the Basin. If necessary or appropriate, adjustments can be made in both the economic and emission projections over the life of the Plan, based on actual performance of industries and the economy as a whole.

3-23 The data and models used to project future air quality emissions are described in the following appendices:

Appendix III-B -- Future Baseline Emissions, South Coast Air Basin

Appendix III-C -- PM10 Emissions Inventory and Forecast, South Coast Air Basin

Please refer also to the December, 1988 EIR, pages 6-2 to 6-19, Table 6-1, and Attachment 9.

3-24 Please see the response for comment 3-5.

3-25 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the response for comment 3-5.

3-21

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3-27

Of particular concern to SoCalGas is that the AQMP overlooks the strong potential for using CNG and developing NGVs as a viable mobile source control measure.

3-26

An increase in fuel efficiency tends to decrease total automobile emissions. However, motor vehicle tailpipe standards are based on grams per mile emitted regardless of fuel economy. The District will continue to study this issue.

The most stringent emissions standards and enforcement measures are being pursued for mobile sources, and further study (as described in Appendix IV-F, California's Post-1987 Motor Vehicle Plan for Continued Progress Toward Attainment of the National Ambient Air Quality Standards for Ozone and Carbon Monoxide -- 1988 Update) is planned. The Air Resources Board has endorsed a motor vehicle emission reduction plan which contains a working list of motor vehicle related measures for which the state has primary authority. Currently, the EPA is the only agency which can mandate fuel efficiency or fuel economy standards. If necessary, a fuel efficiency measure can be added to the AQMP in the future.

3-27

Natural gas is considered an alternative fuel. Please refer to the December, 1988 EIR, pages 4-14-1 to 4-14-22. Also, please refer to the response and address for comment 3-2.

	CNG is a fuel with a supply and delivery infrastructure, unlike methanol, which the AQMP appears to favor. Its emission characteristics are closely equivalent to methanol, and it is much more cost competitive.	
	Because Los Angeles has a very large fleet vehicle population, roughly 1 million vehicles, covering a large geographic area, CNG use in fleet vehicles could significantly reduce mobile source emissions. Tests have shown that if all of these vehicles were converted to natural gas, CO emissions could be reduced by over 600 tons/day, NOx emissions could be reduced by more than 50 tons/day, and hydrocarbon emissions could be reduced by almost 65 tons/day.	3-28
3-28	Yet the AQMP appears to exclude development of the NGV market. It specifically cites measures calling for <u>methanol</u> buses and urban bus system electrification in Tier I measures (pp 4-17); <u>methanol</u> freight vehicles in Tier II measures (pp 4-27); and full vehicle electrification, <u>methanol</u> trucks, motorcycles, etc. in Tier III measures (pp 4-35).	
3-29	SoCalGas urges modification to measures which appear to preclude the use of CNG and the development of NGV's. We believe that over time, NGV development can become one of the most significant mobile source control measures, and should not be overlooked by the AQMP. SoCalGas also strongly recommends that the AQMP be modified to require increased emission controls for mobile sources.	3-29
	4. Electrification:	
	The long term policies outlined in the AQMP would displace fossil fuel use, including natural gas, in the SCAB with electricity. The AQMP calls for complete industrial electrification as a Tier III option (pp 4-29), and full vehicle electrification as a Tier III option (pp 4-34). While the draft AQMP does not suggest complete residential or commercial market electrification, Table VII-2 of the Appendix IV-B clearly indicates this direction. This table estimates market losses to SoCalGas -- 72% in the industrial market, 73% in power generation, as well as 46% in commercial market and 82% in the residential market.	3-30
3-30	In so doing the AQMP appears to overlook the importance of diversity of energy supply. Currently, energy users have a choice of energy supplies and options. While limiting choice due to air quality concerns may be a regulatory option, tying all of business, industry, commerce, transportation, and home energy use to electricity is not a wise decision. Interruptions of supply become a much more important matter with more serious and grave adverse impacts, when there is no available alternative.	3-31
3-31	The AQMP appears to be unconcerned with the importance of energy efficiency as a potential air quality strategy. Currently, natural gas use for many high temperature applications is the most efficient form of energy usage. Displacement of natural gas by electricity will require a net increase in source energy consumption to accommodate electrification.	
3-32	The AQMP also appears to be unconcerned with the cost of electrification. SoCalGas research estimates that the loss of value added to the local economy due to Tier III electrification measures would amount to \$18.5 billion annually by the year 2007. This represents the loss of about 370,500 additional jobs. Additionally, research indicates that the cost to electricity consumers would be dramatic, resulting in an increase of between \$290 and \$712 per year in electric bills.	
	As noted in the Modifications to the AQMP, the definition for clean fuels in Tier I, land II measures will be expanded to include all fuels which produce less ROG, NOx, CO, and PM emissions compared to conventional fuels and are at least as clean as methanol when burned in an internal combustion engine, turbine, or boiler. Accordingly, the impacts of natural gas have been discussed in the December, 1988 EIR, pages 4-14-9 to 4-14-22.	
	Your comment is noted. As noted in the Modifications to the AQMP, any reference to clean fuels will be changed to very low-emitting, vehicles/engines, so as to include all emission control technologies and not only clear fuels.	
	Electrification is used as a benchmark technology for reaching the emission reduction targets. But it is not mandated, as the Plan does not exclude the implementation of other low-emitting power generation technologies if they are available. However, they must be able to achieve emissions reductions equivalent to those which electrification will achieve. Also, please refer to the response for comment 3-6.	
	The net emissions reduction is the most important aspect of technology evaluation for power generation. Electrification is not mandated since other equivalent low-emitting technologies may be developed to meet the power supply needs of the Basin. Energy efficiency is also an important factor, as more efficient power production requires less fuel and may produce lower overall emissions. However, technologies such as solar power, which contribute no emissions, but may be of lower energy efficiency, will not be excluded from consideration as energy alternatives.	

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3-32

It is difficult to qualify the cost of achieving Tier III emissions reduction targets. Electrification is presented as a benchmark. A combination of technologies may be used in addition to, or in lieu of, electrification to meet the power demand within the Basin. If electrification is the technology implemented, it is difficult to determine which types of power generation will be used to produce the energy and in what quantity as well as the associated cost values. Economic impacts as described in Revised Appendix IV-B will vary among industrial, commercial, residential, and transportation sectors depending on which strategic plan is implemented. Please note that consumption forecasts have been substantially revised as in response to comment 2-9.

3-33 Finally, the AQMP appears unconcerned with potential environmental degradation outside of the air basin resulting from the necessary increase in electric generating capacity. Clearly, conversion of stationary and mobile sources to electricity will dramatically increase electric demand. Yet, stationary controls will likely inhibit in-basin generation.

Out-of-basin electric generation requirements will essentially export our air pollution problems. The AQMP appears to indicate that additional electric capacity will come from coal-fired plants. Reliance on coal-fired generation facilities will clearly result in environmental degradation from the mining, combustion and waste disposal, and result in increasing acid deposition and contributing to the greenhouse effect. Alternative pressure may develop to site nuclear power facilities, resulting in increasing nuclear waste disposal problems.

3-34 This policy direction simply does not appear to be responsible, and is clearly out of line with state and federal environmental concerns. Increased demand for electricity due to this electrification strategy may require the development of up to 46,000 megawatts of new generation capacity, requiring the construction of up to 30 new 1500 megawatt coal fired facilities.

3-35 The attempt to site these facilities would likely cause strong environmental opposition. Siting would be restricted by other environment concerns, including other aspects of the Clean Air Act which prohibits degradation of visibility at National Parks and Monuments.

3-36 SoCalGas believes that the Tier III control strategies which essentially call for the electrification of the basin should be rejected, and a more balanced approach be considered.

Conclusion:

3-37 SoCalGas shares the concern of the District and the people of southern California for improving air quality. We believe that natural gas can play a major role in this effort. In the past, efficient use of natural gas has helped to reduce pollution. SoCalGas believes that natural gas continues to be the most energy efficient, cost competitive and environmentally benign fuel available. SoCalGas stands ready to provide the necessary level of service to accommodate increased use of natural gas to achieve improvements in air quality.

3-38 SoCalGas believes that measures to control emissions should be implemented which have the lowest social and economic cost and the greatest pollution control benefit. SoCalGas will help in this effort by developing and use technologies to improve operating efficiencies and reduce emissions. But we cannot support measures which implicitly rule out the use of natural gas. Nor can we support further stringent stationary source controls without equitable treatment of emissions from mobile sources.

3-33

Please refer to Attachment 5. As demonstrated in Attachment 5, the revised electricity supply matrix does not rely on additional out-of-Basin generation sources, except for 500-1000 MW of hydropower to meet nighttime demands. The most likely source of this hydropower capacity would be the Pacific Northwest or Canada.

Although the specific amounts of capacity available from each generation source may change, it is expected that the total capacity required by the electrification strategy can be provided. Thus, it is not anticipated that additional power generating capacity be built solely to support the AQMP electrification strategy, thereby avoiding any adverse impacts on visibility and air quality that may occur due to construction of coal-fired power plants. Please refer also to the response for comment 2-9.

3-34

Your comment is noted. Please refer to Attachment 5 and to the response for comment 2-9.

3-35

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the responses for comments 3-33, 2-107, and 2-108.

3-36

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

3-37

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

3-38

Your comment is noted. Please refer to the responses for comment 3-25 and 3-27.

SoCalGas encourages and will support stronger efforts to effect greater emission reductions from mobile sources, the greatest single contributor to the ozone problem. The District cannot overlook any viable means of reducing emissions from these sources. Further, SoCalGas urges stronger support for the role of natural gas vehicles as a means to reduce mobile source emissions.

SoCalGas strongly opposes policies contained in the draft AQMP which mandate electrification of all energy sources in the basin. We believe this long term objective to be irresponsible and counter-productive to the pursuit of improved air quality.

Finally, SoCalGas urges the District Board to reconsider and modify the policy directions of the AQMP before adoption. To accomplish this, the District must improve the analytical basis for making policy decisions; it should establish a more balanced and equitable approach in addressing the air quality problem of southern California and the District should establish a partnership among interested parties, including business and industry, labor, environmentalists, consumer advocates, scientific experts and other government agencies to help develop modifications to the plan, as well as to facilitate implementation of the plan once adopted.

The remaining chapters in this report contain the specific documentation and analysis used to support the statements made in this overview.

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the response for comment 3-6.

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

II. ASSESSMENT OF THE AQMP DEVELOPMENT METHODOLOGY

A. Summary

B. Analysis

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II. ASSESSMENT OF THE AQMP DEVELOPMENT METHODOLOGY

A. Summary

3-42 SoCalGas supports the goal of clean air in Los Angeles and recognizes the difficulty of achieving that goal. Success, however, will not be possible without a coordinated effort between government, industry and the public. Moreover, community support for the sacrifices necessary to clean up our air will not be forthcoming without assurances that those sacrifices are justified and that the burden is shared equitably. Unfortunately, the AQMP does not provide for a coordinated implementation and does not build the necessary community support.

Recognizing these problems with the current system, SoCalGas commissioned SRI International to analyze the AQMP development process, identify its shortcomings and offer suggestions to improve the process. Some of their suggested improvements include:

- 3-43 1. The analysis of the individual control measures should address more than just technical feasibility. The various uncertainties that influence the feasibility and efficiency of control strategies is equally important. Measures that are unlikely to be implemented due to political, social or economic barriers should be much more carefully developed.
- 3-44 2. Control measures should address peak day emissions rather than average day emissions. The goal of clean air efforts is to reduce peak ozone concentrations. The control measures are designed to reduce average day emissions and, therefore, do not consider a wide variety of possible cost effective management approaches that would alter seasonal and daily operating practices. For example, some industries which operate less than 24 hours per day may be willing to shift their operations to off-peak (night time or weekends) if sufficient incentives are provided. Site specific regulations should also be considered.
- 3-45 3. The AQMP should have a standard measure of economics and peak pollution control effectiveness that can be used to compare proposed control measures. Rather than a dollar per ton of emissions reduced, the effectiveness should be in terms of projected air quality improvement. This approach credits control measures that shift emissions in time and space as well as those that only reduce emissions quantity.
- 3-46 4. The AQMP should describe the full range of impacts that could result from implementation of a control measure. The acceptability of a control measure and the overall plan depends upon impacts beyond costs and air quality benefits. For example, the generation of electricity in coal plants in Arizona and Nevada to supply power for Los Angeles may reduce smog in the SCAQMD, but the environmental impacts from the associated mining, combustion, solid waste disposal and transmission line construction on residents and National Parks in the west may make this alternative unacceptable.

3-47 Without this type of information, policymakers cannot make informed decisions as to which control alternative is the "best" strategy and companies asked to reduce emissions cannot be assured the cost of pollution control will be shared by all sources equitably. Industry cannot be expected to support further stationary source control measures included in the AQMP if there is no assurance that mobile source controls will be implemented.

3-42 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the responses for comments 2-10, 2-20, and 2-30.

3-43 Your comment is noted. Please refer to the responses for comment 2-12, 2-20, 2-30, and 3-12.

3-44 From the 1984 Olympics experience, the District understands the importance of having an integrated control strategy including time- and place-specific control measures. However, these types of measures are included in the AQMP only as contingency plan measures in the event that some of the technological breakthroughs expected in Tier I and Tier II are not realized. The feasibility and potential impacts on air quality of these types of measures will be further examined for implementation in the next few years. Many of the transportation management measures included in the AQMP are also time- and place-specific controls which were mainly responsible for the better air quality during the 1984 Olympics period.

The Los Angeles Area Chamber of Commerce indicated in its comments dated September 28, 1988, that the Chamber is preparing a list of measures which should be studied to see if this approach would be feasible. The District has not received the list. The district is preparing to conduct a modeling and planning study with EPA funding to determine the feasibility of implementing a locally implemented control program. At the present time, the measures identified for consideration in contingency control measures T-8 outlined in the December, 1988 revisions to the EIR are:

Noontime work starts of summer days,

Noontime work starts in the coastal/central areas,

Disincentives for vehicles in business areas,

Emergency plan measures required for forecast Stage I episodes,

II. ASSESSMENT OF THE AQMP DEVELOPMENT METHODOLOGY

A. Summary

3-42

SoCalGas supports the goal of clean air in Los Angeles and recognizes the difficulty of achieving that goal. Success, however, will not be possible without a coordinated effort between government, industry and the public. Moreover, community support for the sacrifices necessary to clean up our air will not be forthcoming without assurances that those sacrifices are justified and that the burden is shared equitably. Unfortunately, the AQMP does not provide for a coordinated implementation and does not build the necessary community support.

Recognizing these problems with the current system, SoCalGas commissioned SRI International to analyze the AQMP development process, identify its shortcomings and offer suggestions to improve the process. Some of their suggested improvements include:

3-43

1. The analysis of the individual control measures should address more than just technical feasibility. The various uncertainties that influence the feasibility and efficiency of control strategies is equally important. Measures that are unlikely to be implemented due to political, social or economic barriers should be much more carefully developed.

3-44

2. Control measures should address peak day emissions rather than average day emissions. The goal of clean air efforts is to reduce peak ozone concentrations. The control measures are designed to reduce average day emissions and, therefore, do not consider a wide variety of possible cost effective management approaches that would alter seasonal and daily operating practices. For example, some industries which operate less than 24 hours per day may be willing to shift their operations to off-peak (night time or weekends) if sufficient incentives are provided. Site specific regulations should also be considered.

3-45

3. The AQMP should have a standard measure of economics and peak pollution control effectiveness that can be used to compare proposed control measures. Rather than a dollar per ton of emissions reduced, the effectiveness should be in terms of projected air quality improvement. This approach credits control measures that shift emissions in time and space as well as those that only reduce emissions quantity.

3-46

4. The AQMP should describe the full range of impacts that could result from implementation of a control measure. The acceptability of a control measure and the overall plan depends upon impacts beyond costs and air quality benefits. For example, the generation of electricity in coal plants in Arizona and Nevada to supply power for Los Angeles may reduce smog in the SCAQMD, but the environmental impacts from the associated mining, combustion, solid waste disposal and transmission line construction on residents and National Parks in the west may make this alternative unacceptable.

3-47

Without this type of information, policymakers cannot make informed decisions as to which control alternative is the "best" strategy and companies asked to reduce emissions cannot be assured the cost of pollution control will be shared by all sources equitably. Industry cannot be expected to support further stationary source control measures included in the AQMP if there is no assurance that mobile source controls will be implemented.

Shutdown of non-essential services during forecast Stage episodes,

Prohibition of single-occupant vehicles from entering the freeway system,

Provision of free bus rides during summer, and

Banning organic solvent use on forecast Stage I episodes.

3-45

The methodology used for selecting the Basin control approach was to select the correct mix and order of emissions reductions that will result in the attainment of all health standards everywhere in the Basin it was necessary to employ an iterative process which addressed the interrelated nature of the nitrogen dioxide, fine particulate, and ozone attainment problems. A three step process was used to determine the overall strategy:

1. Determine if baseline controls for oxides of nitrogen (NOx) will result in attainment of nitrogen dioxide standards everywhere in the Basin as expeditiously as possible. If not, pursue additional NOx controls to meet standard.

2. While considering the NOx controls needed to attain nitrogen dioxide standards, determine if baseline controls of oxides of sulfur (SOx) and directly emitted particulates will result in attainment of the PM10 fine particulate standards as expeditiously as possible at all locations in the Basin. If not, pursue the most effective mix of additional PM10, SOx, and NOx controls to achieve the PM10 standard.

3. Determine if the baseline ROG controls, when combined with the NOx controls needed to attain the nitrogen dioxide and PM10 standards, will result in attainment of the ozone standard as expeditiously as possible at all locations in the Basin. If not, pursue the most effective* mix of additional ROG and NOx controls needed to attain the standards.

II. ASSESSMENT OF THE AQMP DEVELOPMENT METHODOLOGY

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To provide the best interim results, the reactive organic gas and oxides of nitrogen reductions would be timed so that they are concurrent to the greatest extent possible.

*In terms of cost, technical feasibility, ease of application, and time needed for implementation.

CONTROL METHODS SUBDIVIDED INTO THE FOLLOWING THREE TIERS:

Tier I -- Full implementation of known technological applications and effective management practices

Tier II -- Significant advancement of today's technological applications and vigorous regulatory intervention

Tier III -- Development of new technology

EMISSIONS REDUCTIONS ESTIMATED

Emissions reductions were then estimated by individual control measures taking into account the contributions of other measures. The baseline emissions associated with each category and the associated emission reductions are listed in Appendices IV-A, IV-F, and IV-G. The net emissions reductions resulting from all measures was then estimated by taking into account the overlap and interaction between measures. The method preferred by SCG is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

3-46 CEQA distinguishes between the type of EIR to be prepared for a policy document and an actual project by creating program EIRs (Section 15168, CEQA Guidelines). Program EIRs, in contrast to project specific EIRs, are intended to examine the environmental impacts of a series of related actions including adoptions of broad policy alternatives that could include appropriate mitigation measures as part of the planning process (control measures) and that address cumulative impacts (CEQA Guidelines & 15168 [b]). This EIR, because it addresses the initiation of broad policy programs by the District, is a program EIR as defined by CEQA.

II. ASSESSMENT OF THE AQMP DEVELOPMENT METHODOLOGY

A. Summary

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The level of detail to be included in a program EIR is addressed in the CEQA Guidelines which state that "The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR." More to the point, the CEQA guidelines also indicate that a program EIR should focus primarily on the general environmental effects that can be expected to result from plan adoption, leaving more detailed analysis to be completed in conjunction with project-specific EIRs. Because the level of information regarding potential impacts from control measures recommended in the AQMP is very general at this time, the environmental impact forecasts are, of necessity, also general or qualitative in character. In certain instances, such as with future ambient air quality concentrations, impacts are quantified to the degree feasible.

The program EIR also serves an important role in establishing a structure for future CEQA review of specific control measures as rule-making initiates. The AQMP Program EIR focuses subsequent environmental review on relevant control measure implementation issues. This concept of covering general matters in the Program EIR with subsequent narrower EIRs for specific projects and with incorporation by reference of the general discussion is known as "tiering" (CEQA Guidelines & 15385). Based on the text in the Program EIR or its appendices, many issues can be eliminated from further consideration in measure-specific EIRs. The program EIR will provide a basis for staffs use in future Initial Studies that identify relevant issues and determine significance, and will allow the project-specific EIRs to focus solely on the new effects or detailed environmental issues not previously considered (CEQA Guidelines & 15168[d]). Please refer to the responses for comments 2-107 and 2-108 for additional information.

3-47

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

3-48

As a long time participant in the AQMP process, SoCalGas agrees with SRI's evaluation and recommendations. We support incorporating these suggestions into the 1988 AQMP and future AQMPs. We also recommend the formation of a partnership between government, industry and the public to guide the implementation of the AQMP after it is adopted. We believe this is the only way to effectively implement a program with such broad social, economic and political implications.

3-48

Your comment is noted. The District Board is forming task forces to address the policy aspects of socioeconomic, growth management, and technical and implementation-related issues. Also refer to the responses for comments 2-10, 2-20, and 2-30.

II. ASSESSMENT OF THE AQMP DEVELOPMENT METHODOLOGY

B. Analysis ¹

Chronology of the 1988 Plan

Work on the 1988 plan (SCAQMD, 1988a) began with the completion of the 1982 AQMP revision. Between 1982 and 1988, the SCAQMD produced working papers identifying potential control measures and revising long-range strategies for the achievement of air quality standards. Concurrently, the Southern California Association of Governments (SCAG) was revising regional plans that need to be integrated with the AQMP.

The district also significantly improved its analytical system. District staff developed a new emissions inventory and spent considerable effort in improving other critical inputs to the air quality models such as updating emissions factors for light vehicles, including hourly temperature data into calculations of reactive organic gas (ROG) emissions from mobile sources, revising the characterization of formaldehyde emissions, and incorporating new information on boundary conditions.

In 1985 the district issued a new "Long-Range Strategy Paper" that was largely an extension of the strategy in the 1982 AQMP. The long-range strategy highlights solvent substitution, methanol, and electrification as the bases for developing the management plan. The general assumption reflected in the Draft 1988 AQMP and supporting appendices is that emissions from all categories of sources must be reduced to achieve air quality standards. The attainment strategies, therefore, target emissions from combustion and evaporation in the industrial, commercial, transportation, and residential sectors.

In 1986 the district issued "Working Paper No. 4—Short-Range Control Measures." This paper identified potential control measures that could be implemented in 5 years, including control technologies, economic incentives, and transportation system and land use initiatives.

In December 1987 SCAQMD and SCAG published "Path to Clean Air: Attainment Strategies." This document provided the public at large and local government officials with a comprehensive picture of the air quality problem and the actions being considered to improve conditions in the face of continued growth. SCAG was responsible for developing two regional plans that are integral parts of the AQMP: the Regional Mobility Plan and the Regional Growth Management Plan.

The Regional Mobility Plan is designed to restore conditions on the region's streets and freeways to 1984 levels of mobility. The strategy adopted is a mix of facility development, demand management, system management, and job/housing balance. The strategy for balancing jobs and housing to reduce commuting trips is developed in the Regional Growth Management Plan.

¹ Prepared by SRI International

In 1988 the SCAQMD has published numerous documents supporting the Draft 1988 AQMP, which was issued in September 1988. Appendices to the AQMP describe the analytical models and data bases to assess the various impacts of the plan. A major part of the documentation addresses the emissions data and the details of the air quality modeling effort. The individual control measures, including estimates of their contribution to reducing emissions and estimates of their costs in a limited number of instances, are described in detail.

The plan includes implementation schedules for the elements of the AQMP along with identification of the agency responsible for each element and identification of any enabling legislation required.

Basic Principles for Reviewing the AQMP

In reviewing and assessing the AQMP, SRI attempted to answer several basic questions:

- What is the objective of the SCAQMD's plan?
- Has the problem been defined correctly?
- Have all reasonable alternatives been identified?
- Does the plan consider the uncertainty in future events?
- Have the alternatives been compared logically?
- Are the impacts completely understood?
- Can the plan be implemented?
- What determines the "best" plan?

3-49 [These questions have many facets. Although the available documentation and time for review did not permit a thorough investigation of all aspects of the planning process and models employed, SRI could draw clear conclusions about the methodology employed for developing the AQMP and the advisability of adopting the AQMP without reservation.

What Is the Objective of the SCAQMD's Plan?

3-50 [The problem perceived by the SCAQMD is how to comply with federal and state regulations regarding air quality. The district is bound by the Clean Air Act of 1970 (CAA), as amended, to produce a plan that will meet the federal standards. The district's response is the 1988 AQMP, whose objective is clearly stated on page 1-1: "The purpose ... is to set forth a comprehensive program that will lead the Basin into compliance with all federal and state air quality standards" (SCAQMD, 1988a).

3-49

Your comment is noted.

3-50

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Achieving and maintaining current standards is part of the District's goals, and the AQMP process is structured to be responsive to possible further changes in standards. No specific changes in standards have been addressed in the current revision of the AQMP.

However, the problem actually facing the district is broader -- it must achieve and maintain "clean air" in the SCAB. The district not only must develop an effective plan for current standards, but also must implement the plan and be prepared to meet any future standards.

3-51 The AQMP includes schedules for implementation, but the planning methodology does not give them proper emphasis as a major objective of the district. Community leaders and residents want to understand the full ramifications of the actions recommended by the plan. Thus, the impacts of the plan must be described in terms of measures that go beyond cost-effectiveness. Impacts on the regional economy are central concerns to private sector employers and employees as well as to the government sector concerned about its tax base. Other concerns are availability and cost of new technologies, environmental effects of old and new technologies, and intangible effects on lifestyles.

3-52 The possibility of more stringent standards for pollutants currently regulated as well as the possibility of standards for new pollutants must be considered in the planning methodology. Otherwise, the district could adopt control measures that later prove to fall short or to result in new problems. Examples are the possibility of new ozone standards arising from current EPA research programs, exposure to new combustion products such as aldehydes from methanol cars, and exposure to hazardous materials used in batteries for electric vehicles.

3-53 SRI concludes that the district has perhaps met its legal objective, but as is discussed more extensively below, is unlikely to meet its clean air objective. The district has not developed a plan that can be implemented or that allows for future regulatory changes.

Has the Problem Been Defined Correctly?

Defining or formulating the problem "correctly" at the outset can greatly improve the analytical process and implementation of the plan. By setting standards to eliminate peaks, the Environmental Protection Agency (EPA) permits control measures designed to avoid conditions that create peaks in pollutant formation and concentration. Thus, control measures could be designed for a particular time of year or a particular part of the basin or both.

3-54 The CAA mandates that National Ambient Air Quality Standards (NAAQS) must be set to protect public health with a margin of safety. The standards are generally stated to minimize acute episodes rather than minimizing total exposure over extended periods of time. For example, the current federal standard for ozone requires that the peak daily 1-hour ozone concentration in an area not exceed 0.12 parts per million (ppm) more than three times in 3 years. The presumption is that this level has a sufficient margin of safety to protect public health even if average ozone levels are only slightly below 0.12 ppm.

Due to the nature of the observed uncertainty in the extreme value of controlled pollutants, the uncertainty about the frequency of occurrence increases as the extreme becomes more "spiky." Thus, the most cost-effective strategies for dealing with air pollution are likely to include those that reduce peaks by controlling time of emission, geographic location of emission, and activities that produce emission peaks. Nevertheless, many AQMP control measures are aimed at reducing average levels of pollution without addressing peaking issues.

3-51 Your comment is noted. Please refer to Appendix F which addresses your comments on the socioeconomic impacts of the AQMP. Please refer also to the response to comment 3-4 and to Section 4-18 of the December, 1988 EIR.

3-52 As discussed in the Executive Summary to this Addendum, CEQA does not require that speculative analysis be undertaken in the EIR to assess the impacts of events or actions that may or may not occur. Any attempt to second-guess the federal and state legislatures on the possibility and magnitude of more stringent standards would be conjectural. The Plan is a dynamic document that can be adjusted in the future to accommodate changes in federal and state air quality laws and regulations.

3-53 Your comment is noted and will be referred to the District Board for consideration in making its decision on the AQMP.

3-54 Your comment is noted. Congress and the California State legislature have established ambient air quality standards to protect human health. The responsibility of the District is to develop and implement a plan, the AQMP, to achieve these standards. Focus on peak concentrations for short-term pollutant standards has been incorporated into the District Plan. For PM10 standards, focus has been on both the short- and long-term pollution levels. Also, refer to the response for comment 3-44.

Have All Reasonable Alternatives Been Identified?

3-55 The district was primarily responsible for identifying the control measures proposed for stationary sources. It drew on its own experience and outside technical experts to compile a set of measures that appear technically feasible. While SCAG did include management strategies in its Regional Mobility Plan, the district apparently did not consider management approaches that would alter operating procedures to change the diurnal or seasonal pattern of industrial and commercial sector emissions. Discussions with representatives of industrial and commercial establishments in the basin would have revealed that they have some flexibility in their operations that might result in less expensive air quality improvements than the technical solutions proposed by the district. Establishing reasonable emission standards would allow development of innovative alternatives and allow market forces to determine the choice of fuels and technologies.

3-56 Stationary source emissions of ROG and NOx are a major target of the district's AQMP. In the long term, the AQMP's primary strategies call for combinations of fuels (e.g., 85% gas/15% methanol), new technology, and electrification. The application of these strategies is recommended uniformly throughout the SCAB. As previously noted, these narrowly focused recommendations are likely to be much more expensive than strategies designed to directly address timing of emissions (diurnal, day of week, and seasonal) and geographic location.

As an example, the average industrial customer of SCG operated less than 16 hours per day. Peak ozone episodes tend to occur during the late afternoon. Perhaps, then, peak NOx emissions can be shifted from the late afternoon to evening or early morning hours. A second strategy would be to require certain activities to be stopped or scaled back when severe pollution episodes are anticipated.

3-57 If the district were to develop a strategy based on this observation, several synergistic effects would result. The absolute levels of NOx would be reduced during the hours when ozone is most rapidly formed. Nitrous oxides, although a source of ozone in the presence of ultraviolet light, can destroy ozone at night under certain conditions. Moreover, workers in these industries would have different commute patterns, further tending to reduce emissions in the basin. Service and support industries could also shift delivery times and vehicular use patterns.

An extension of this strategy would shift weekday emissions to weekends. Seasonal work patterns, such as 6-day work weeks during most of the year and 3- or 4-day work weeks during the months of July, August, and September, would shift emission patterns during the year.

3-58 All of these strategies would come at a cost. The need for planning by SCAB industries and increased overtime pay are two major costs. However, industry could benefit from avoiding capital costs of new technology and retrofit for electrification. The higher operational costs of electrification would also be avoided.

3-59 The basin could benefit in several ways. Industry should be able to implement such a plan over a much shorter time than current recommendations. Such a flexible strategy would allow the district to "experiment" and measure the impact of differing distributions of emissions both geographically and in time. These "experiments" can be used to verify the Urban Air Shed Model and increase our knowledge about the interaction of weather, geography, and photochemistry.

3-55

Your comment is noted. The Proposed Modifications to the AQMP contain CM88-F-11 (Emission Minimization Plan) and T-8 (time and place control measure). Implementation of the tactics identified in the Plan will only occur after a regulation is adopted pursuant to rule-making authority granted the District or ordinances enacted by local governments.

3-56

Your comment is noted. Please refer to the response for comment 3-44. The basis for selecting the control mix is outlined in the response for comment 3-45. The actual contribution of time and place control measures to compliance with standards is not known and not presented by SCG. The District will investigate these over the next few years to determine their potential contributions to AQMP goals and will adjust the Plan according.

3-57

Your comment is noted. Please refer to the response to comment 3-44 and to Attachment 2.

3-58

Your comment is noted. Without more detailed examination the qualitative conclusions presented in this comment cannot be validated. Additional investigations will be required and will be undertaken over the next few years.

3-59

Your comment is noted. Please refer to Attachment 9.

Does the Plan Consider the Uncertainty in Future Events?

3-60 The district's plan is designed to be implemented in three tiers over 20 years. Numerous factors can significantly affect the efficacy of this plan, including population growth and demographics, transportation system improvement, migration into and out of the SCAB, a changing geographic profile of jobs, housing, and pollutants over time, an economic boom or depression, changes in the regulatory rules not under local control, weather, technology improvements, and the state of knowledge about health effects of pollutants and toxins. Lastly, predictions about the photochemistry and transport of low levels of airborne pollutants are not very accurate. Figure 1 shows the relationship of these uncertainties to each other and the district plan in the form of an influence diagram.

Figure 1 indicates that 12 major areas of uncertainty could affect the outcome of the district's strategies. With only two possible outcomes for each uncertainty, there are more than 4,000 scenarios to consider. Some of these will result in achievement of the air quality standards, but many will not. For the most part, current strategies have not dealt with the uncertainties noted. Because of the failure to incorporate these uncertainties into the AQMP, the plan will not likely meet its objectives. A plan that recognizes uncertainties and can evolve as information becomes available has a much better chance of succeeding.

SRI developed an example of a planning approach to show how incorporating uncertainty can dramatically affect one's assessment of the effectiveness of the Draft 1988 AQMP. The example examines the fourth highest peak ozone concentration in the years 2000 and 2010 and is based on the uncertainties and relationships shown in Figure 1.

3-61 Sample probability distributions, which reflected the conditioning relationships of the influence diagram, were developed for each pertinent factor. The probability estimates, which are the result of the informed judgments of SRI and our subcontractors, are for demonstration purposes only. For each uncertainty factor, Table 1 shows the two scenario descriptors that were the basis for the probability judgments used in this example.

A peak ozone concentration was computed in the year 2000 and in the year 2010 for each of the over 4,000 possible scenarios. The collection of estimates for each year results in a probability distribution that describes our overall uncertainty about the effectiveness of the district's strategy over time (see Figure 2). As can be seen, the peak concentration ranges from about 5 pphm to 35 pphm for each epoch, 2000 and 2010. The uncertainty in the year 2010 is larger (the density is less peaked) than in the year 2000.

The expected outcome for the probability judgments used is for peak concentrations to drop from the current levels of about 30 pphm to about 20 pphm in the year 2000. In the following decade, the concentration continues to drop, but at a much slower rate, down to an expected value of 18 pphm in 2010.

3-60

Your comment is noted. Please refer to Attachment 9. Any Plan must address unknowns or uncertainties to the degree feasible at the time of Plan adoption, otherwise no commitments would ever be made to plan for the future. It is for this reason that the AQMP and the process must remain dynamic and incorporate actual experience as feedback to adjust the Plan. Please also refer to the responses for comments 2-12, 2-20, and 2-27.

3-61

Please refer to the response for comment 3-13.

Table I
SCENARIO DESCRIPTIONS
FOR THE MAJOR PLANNING UNCERTAINTIES

Uncertainty Factor	Low Value Scenario	High Value Scenario
Regulations Not Under District Control	Current Regulations	New Regulations
Electric Power Availability	New Siting Not Allowed	New Siting Allowed
Economic Activity and Jobs	Bust	Boom
Population Distribution and Size	Current Growth	High Growth
R&D Effects	Late	When Needed
Technology Efficiency	Expensive, Inefficient	Cheap, Efficient
Enforcement	Effective	Ineffective
Mobile Sources	Current Patterns	Reduced Patterns
Stationary Sources	Not Electrified	Electrified
Weather	Inversions as Frequent	Inversions Not as Frequent
Natural Sources and Inbound Transport	Low Levels	High Levels
Emission Levels	100% of Current	20% of Current

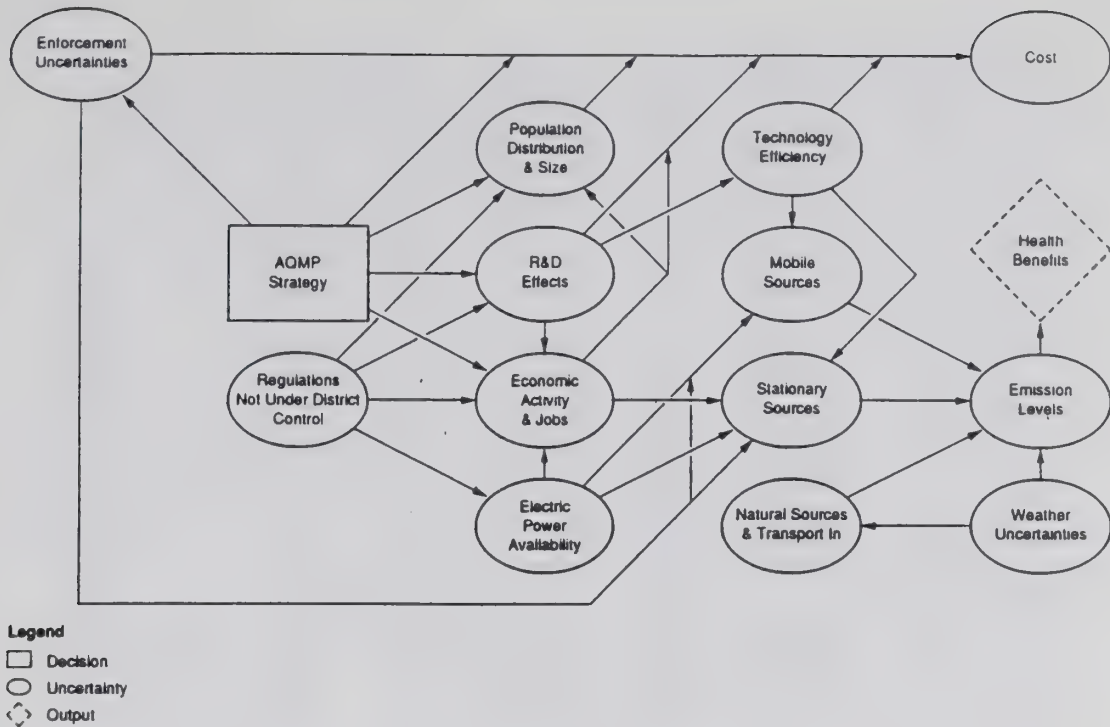


Figure 1
INFLUENCE DIAGRAM SHOWING THE MAJOR UNCERTAINTIES
AFFECTING THE COSTS AND BENEFITS OF THE AQMP

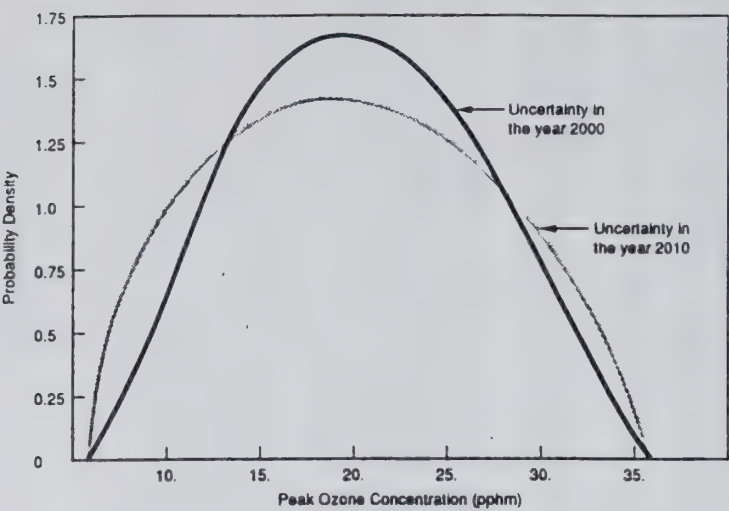


Figure 2
PROBABILITY DENSITY FUNCTIONS FOR THE UNCERTAINTIES ASSOCIATED WITH PEAK OZONE ESTIMATES
FOR THE YEARS 2000 AND 2010

Figure 3 shows the cumulative probability for all possible ozone concentrations and highlights the probability associated with the ozone standard of 12 ppbm. Given the probabilities assigned, there is slightly less than one chance in five that the district's strategy will achieve compliance with the current ozone standard. Figure 3 also indicates that there is only a 50% chance of achieving concentrations below 18 ppbm.

3-62

Your comment is noted. Please refer to the response for comment 3-13.

Other analysts assigning different probabilities to the uncertainties could reach a more optimistic conclusion. Nevertheless, the example shows the need for a more rigorous examination of the uncertainty in the models than the mild caution on page 5-1 of the AQMP: "The uncertainties inherent in modeling techniques and input data should be considered when reviewing modeling results."

3-62

3-63

Please refer to Attachments 1 and 2 for comparisons of alternatives. Though less stringent alternatives may be more cost-effective, they do not demonstrate attainment of federal clean air standards. More stringent alternatives than the AQMP are expected to be less cost-effective than the AQMP. Comparisons of cost-effectiveness of alternatives would have to be made on a measure by measure basis. These comparisons would not be necessary unless different values of cost-effectiveness are given for the same control measure. Please refer to the response to comment 3-17 for more information on the cost of control measures.

Have the Alternative Control Measures Been Compared Logically?

Perhaps the greatest weakness of the AQMP is its evaluation of alternatives. The plan's analysis of the cost-effectiveness of alternatives to be implemented in the short term is incomplete. Moreover, the total direct cost of the longer term control measures is not even roughly estimated. Beyond these shortcomings, the AQMP documentation gives very cursory treatment to the uncertainties inherent in the actions proposed. As was described above, after analyzing potential uncertainties, SRI seriously doubts the potential effectiveness of individual control measures and the likelihood that the proposed plan can succeed in attaining current air quality standards.

3-63

A serious shortcoming of the cost-effectiveness analyses in the Draft 1988 AQMP is the use of costs per ton of emissions reduction. Although emissions reductions often lead to reductions in ambient concentrations, in the case of ozone, perhaps the basin's most serious problem, this may not occur. Under some conditions, photochemical models show that reducing NOx concentrations leads to higher daily maximum ozone concentrations (Chock and Heuss, 1987). This possibility raises grave doubts about the priority assigned to implementing many of the NOx control measures identified in the AQMP without further study of the photochemical processes and the effectiveness of potential ROG controls.

3-64

3-64

Your comment is noted. Please refer to Attachment 2.

A second problem with the cost-effectiveness criterion is its inability to account for air quality improvements arising from measures that shift the time or location of emissions but do not reduce emissions.

3-65

3-65

Please refer to the responses for comments 3-44 and 3-45.

Are the Impacts Completely Understood?

Impacts other than on air quality are assigned a secondary role in the plan because of the district's assumption that air quality conditions in the SCAB are such that any action that reduces emissions should be implemented as soon as technically feasible. Thus, the district staff concentrated on technical aspects of identifying measures and assessing costs and emission reductions. The Draft AQMP does not specify the long-term impacts of the plan on the economy or who will bear the costs of both short-term and long-term actions. An Environmental Impact Report (SCAQMD, 1988b) has been published, but, as demonstrated in Section V, potentially severe impacts are not addressed adequately.

3-66

3-66

Your comment is noted. Please refer to Appendix F and Section 4-18 in the December, 1988 EIR for the expanded socioeconomic data.

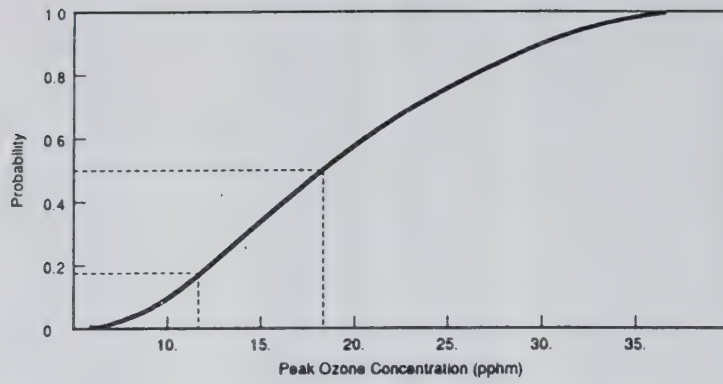


Figure 3
CUMULATIVE PROBABILITY DISTRIBUTION FOR PEAK OZONE LEVELS IN 2010

3-67 The control strategies are aimed at reducing peak concentrations with technologies that reduce average levels of emissions, or move emission-causing activities out of the basin. Many questions about interregional effects, equity, and overall effectiveness are raised by such a policy design. While studies of some of these socioeconomic issues are under way, they should be an integral part of developing the AQMP and not relegated to a secondary role of describing impacts after the fact.

3-68 The public has a wide range of objectives in addition to clean air, which affects its decisions about the AQMP. Adoption of the AQMP will result in increased costs to customers of the companies who must adopt the pollution control technology, to owners of vehicles who travel within the basin, and to governments who must finance infrastructure changes. The costs will be distributed to residents and businesses without regard to their relative contribution to peak pollution episodes. Community leaders will want these economic effects described in terms of income and employment; distributional effects must be analyzed to identify potential winners and losers among socioeconomic classes and geographic areas.

Can the Plan Be Implemented?

3-69 As it stands, the 1988 Draft AQMP stands little chance of being implemented. Because of the many flaws identified above, many improvements are needed to make the plan acceptable to both the technical and political community. The SCAQMD has taken an initial step in achieving progress, but the 1988 plan could suffer the fate of previous plans. Public acceptance and implementation do not depend only on resolving the shortcomings of the analytical tools, but rather on understanding the options the citizens face.

To be acceptable to the widest range of interest groups, the plan's impacts must be described and compared in a manner that allows the residents of the basin to anticipate the effects and to compare the predicted air quality benefits with the costs they are likely to incur. Previous plans for SCAB have not been successful, and the 1988 plan is doomed to failure unless public support results from a thorough presentation of the impacts.

What Determines the "Best" Plan?

3-70 The reviewers of the Draft AQMP cannot conclude that this is the "best" possible plan because impacts along dimensions other than air quality are not fully described. The "best" plan is one that meets air quality objectives and accounts for the major uncertainties that could adversely affect the outcome of the selected strategy. Such a plan requires a systematic analysis of the technical elements shown in Figure 1 such as emission sources, weather phenomena, and pollutant concentrations as well as the socioeconomic setting. The district and SCAG have based the plan on predicted economic and demographic conditions, but consider only one possible scenario. Neither the technical nor the socioeconomic discussions contain sensitivity analyses that provide insights into the effectiveness of district strategies under varying socioeconomic conditions. Such sensitivity analyses and explicit treatment of uncertainty are essential to producing the best possible plan for the basin.

3-67 The SCG conclusion regarding peak concentrations has been addressed in response to comments 3-12 and 3-44. Regarding socioeconomics, please refer to the response for comment 3-66.

3-68 Your comment is noted. Please refer to Appendix F.

3-69 Your comment is noted. Please refer to the December, 1988 EIR and Appendix F. Please refer also to the responses for comments 2-10, 2-19, and 2-20.

3-70 The purpose of the AQMP is to attain air quality standards by the year 2010. At the request of the Southern California Edison Company and the Western States Petroleum Association, Alternative strategies, alternative strategies proposed for attaining ambient air quality standards have been evaluated in Attachments 1 and 2. Based on this evaluation, the District concluded that all ambient air quality standards cannot be attained by either WSPA or SCE strategies. Adverse impacts would be reduced by the alternatives (including economic or socioeconomic impacts), and earlier improvements identified for ozone will also occur here, but not as dramatically as claimed by WOGA and SCE. The factors analyzed to define the proposed Plan are outlined in the response for comment 3-45.

3-71

Economically, the best course of action is determined through a comparison of the benefits attained with the costs incurred. The SCAQMD has not even attempted to identify all the benefits and costs of the Draft 1988 AQMP, and the cost-effectiveness analyses included for Tier I measures are flawed. We recognize that a complete benefit-cost analysis is a challenging assignment and that, even if completed, would not satisfy everyone; each individual and each interest group applies a different value system to the costs and benefits. In this context, the best plan is one that meets technical objectives while being acceptable to the broadest political spectrum.

3-72

Before any plan is accepted, however, the trade-offs between air quality benefits and costs, both monetary and nonmonetary, must be understood. Affected parties must be brought into the planning process and be informed of the compromises that must be made to improve air quality.

3-73

SRI concludes that political acceptance would be enhanced if the planning process and analytical procedures are improved. In the following section we first outline approaches to improving the analysis of alternatives for enhancing air quality and then the key elements of an overall planning methodology. Such a methodology is essential for attaining broad public support.

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SCAQMD, 1988b. "Draft Environmental Impact Report, 1988 Revision to the Air Quality Management Plan," South Coast Air Quality Management District, Los Angeles, California (September 1988).

3-71

In the next few months, the District will be soliciting views to assess the costs and benefits of the AQMP through the information of the socioeconomic task force. The AQMP attempts to provide a balance among all sectors of the Basin in bearing the costs of achieving the necessary emissions reductions. Refer also to the response to comment 3-17, and to Appendix F and Section 4-18 of the December, 1988 EIR.

3-72

Your comment is noted and will be forwarded to the Board for consideration in making its decision on the AQMP.

3-73

Your comment is noted and will be forwarded to the Board for consideration in making its decision on the AQMP.

VII. COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT

A. Summary

B. Environmental Impacts

C. Economic Impacts

D. Specific Comments on the EIR

000001

VII. COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT

A. Summary

3-74 The Environmental Impact Report (EIR) prepared on the draft 1988 AQMP is seriously deficient in several categories. The out of basin environmental impacts of electrification are not discussed, the economic impacts of the various control measures are not adequately reviewed and the identified alternative strategies are not evaluated. SoCalGas believes the potential environmental and economic impacts of the proposed AQMP are tremendous and must be acknowledged before a final decision on control strategy is adopted.

3-75 The environmental impacts of the proposed AQMP will occur primarily as the result of the Tier III electrification strategies. The EIR states, and SoCalGas agrees, that coal-fired power plants will be relied upon to fill the need for most of the additional power and capacity needed in the electrification strategy. The EIR concludes "Air quality in the vicinity of the power plants may be significantly reduced if fossil-fueled generating plants are used."

3-76 SoCalGas estimates that the additional coal-fired capacity needed to supply the electrification strategies could range from 7,600 MW up to 46,000 MW depending on the success of the load management programs. This capacity translates to between 7 and 32 coal-fired power plants (1,500 MW each), up to 8 times the present capacity at Four Corners power plant. These plants could produce a volume of CO₂ equal to about 2% of the current CO₂ emissions for the entire United States. The EIR does not address the potential impact of these emissions on the "greenhouse effect".

3-77 The EIR also fails to address the impact of these coal-fired power plants on visibility in the numerous National Parks, Monuments and Recreational areas located in the southwestern United States. Assuming these plants are sited to avoid visibility impacts on these sensitive areas and assuming the radius of impact of a new plant extends 200 miles, virtually the entire southwest is excluded as possible plant sites.

3-78 Although the EIR considers the economic impacts of the AQMP to be minimal, SoCalGas has analyzed the economic impacts of the proposed Tier I, I NOx control measures affecting stationary sources and concluded the local economy will lose approximately \$2.5 billion annually by 2007 due increased operating costs and reduced production. The net present value of these costs is \$3.90 per person per day. The projected impact of Tier III electrification is a staggering \$5.2 billion in annual capital costs and \$18.5 billion annually in reduced industrial output by 2007. This amounts to \$1,939,000 per ton of NOx reduced. A value far above the \$24,500 per ton considered cost effective by the SCAQMD.

3-79 On the issue of alternative control strategies, the EIR states the ROG only strategy "has not been fully modeled, yet it is unlikely that implementation of this strategy would permit attainment." SoCalGas does not believe this is adequate analysis of a strategy that many experts believe is more effective than the proposed combination ROG and NOx control strategy.

3-74

Out-of Basin impacts are discussed in response to comment 2-9. Economic impacts are addressed in Appendix F and Section 4-18 of the December, 1988 EIR. Alternatives are more fully addressed in Chapter 5 of the December, 1988 EIR and Attachments 1 and 2 to this Addendum.

3-75

Please refer to Attachment 5. The Potential Power Supply Matrix for the Basin lists in-Basin and out-of-Basin energy resources and their potential capacities to meet the energy requirements of the electrification strategy. To accommodate the Tier III goals of the electrification strategy, excess off-peak capacities from both in-Basin and out-of-Basin sources are proposed for use, with significant reliance on in-Basin resources.

Based on the potential supply matrix, the energy demand to charge electric vehicles could be met from off-peak capacity with effective load management programs, solar power plants, fuel cells, and by repowering existing in-Basin units with combined cycle technology. The requirement to use very low-emitting vehicles in Tier III will provide a significant force to bring about solar and fuel cell technology advancements and performance improvements. Therefore, it is not anticipated that coal-fired power plants would be needed to provide the energy required in the electrification strategy. However, any plants that may be constructed either inside or outside the Basin would need to meet air pollution control requirements. Please refer to the response to comment 2-9 for further information.

3-76

Your comment is noted. Please refer to the responses for comments 3-75 and 2-110.

3-77

Please refer to the response for comment 2-9. Given the revised estimate of power requirements and the options available for power generation, the conclusion in your comment does not appear valid. However, even if no power plants can be constructed in these areas, substantial other areas remain to site such facilities.

VII. COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT

A. Summary

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- 3-75 The environmental impacts of the proposed AQMP will occur primarily as the result of the Tier III electrification strategies. The EIR states, and SoCalGas agrees, that coal-fired power plants will be relied upon to fill the need for most of the additional power and capacity needed in the electrification strategy. The EIR concludes "Air quality in the vicinity of the power plants may be significantly reduced if fossil-fueled generating plants are used."
- 3-76 SoCalGas estimates that the additional coal-fired capacity needed to supply the electrification strategies could range from 7,600 MW up to 46,000 MW depending on the success of the load management programs. This capacity translates to between 7 and 32 coal-fired power plants (1,500 MW each), up to 8 times the present capacity at Four Corners power plant. These plants could produce a volume of CO₂ equal to about 2% of the current CO₂ emissions for the entire United States. The EIR does not address the potential impact of these emissions on the "greenhouse effect".
- 3-77 The EIR also fails to address the impact of these coal-fired power plants on visibility in the numerous National Parks, Monuments and Recreational areas located in the southwestern United States. Assuming these plants are sited to avoid visibility impacts on these sensitive areas and assuming the radius of impact of a new plant extends 200 miles, virtually the entire southwest is excluded as possible plant sites.
- 3-78 Although the EIR considers the economic impacts of the AQMP to be minimal, SoCalGas has analyzed the economic impacts of the proposed Tier I, I NOx control measures affecting stationary sources and concluded the local economy will lose approximately \$2.5 billion annually by 2007 due increased operating costs and reduced production. The net present value of these costs is \$3.90 per person per day. The projected impact of Tier III electrification is a staggering \$5.2 billion in annual capital costs and \$18.5 billion annually in reduced industrial output by 2007. This amounts to \$1,939,000 per ton of NOx reduced. A value far above the \$24,500 per ton considered cost effective by the SCAQMD.
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3-78

The electric generating needs of the electrification strategy have been revised downward substantially. There is not anticipated need to build coal-fired power plants outside the Basin to meet this need.

The District needs the assumptions and methodologies used to generate these numbers in order to assess their validity in projecting the Tier III electrification impact. Please refer to the responses for comments 3-66 and 3-69.

3-79

The SCE and WOGA limited NOx control alternatives have been evaluated by District staff. The conclusions of this analysis are presented in Attachments 1 and 2. Please refer to the responses for comments 2-1 and 2-4.

SoCalGas believes the AQMP's proposed policy of improving air quality in the south coast air basin at the expense of air quality in other regions must be debated with full knowledge of the national implications. We also believe the economics of the proposed control strategies must be identified before adoption to allow for informed decision making. Finally, we believe all reasonable emission control strategies must be evaluated thoroughly before being discarded as inadequate. The EIR fails to accomplish each of these tasks and, therefore, should be deemed inadequate by the SCAQMD Board.

Your comment is noted and will be forwarded to the District Board for consideration. Please refer to the responses to comments 2-9, 2-103, and 2-108, as well as to Attachment 5.

VII. COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT

B. Environmental Impacts ¹

Introduction

Electrification as proposed by the AQMP requires creation of a substantial electric generation capacity outside the Los Angeles Basin. The Environmental Impact Report (EIR) for the AQMP assumes this new capacity will be based on combustion of coal and account for 16-20% of the basin's electricity needs. The remainder of the increase in electricity demand would be supplied or offset by load management (50-60%), solar power (2-7%), fuel cells (2-4%), replacement or upgrade of existing capacity (5-13%), and landfill gas (0-1%). However, the EIR's projections do not account for increases in electricity demand due to population growth.

Since the AQMP assumes all presently unused in-basin capacity is used for electrification for air quality purposes, the new capacity required to both service population growth and any increases in per capita consumption must be met by out-of-basin plants. Thus, actual additions may exceed the 7,580- to 9,800-MW capacity projected in the EIR's scenarios, even if the EIR's projections for eventual use of presently uncommercialized technologies hold true.

Given the EIR's assumption of a 43% population increase, the capacity needed to service these people at 1988 consumption levels would be about 4,800 MW, or about three 1,500-MW plants. The EIR estimates 46,060 MW of capacity will be needed for full electrification if load management measures and various new technologies are used. These two figures add to about 51,000 MW under the EIR's assumptions. About 4% of this capacity is projected to be available from the Bonneville Power Administration, and some fraction will surely come from geothermal plants in the Imperial Valley and China Lake (Coso). Thus, about 10-15% might be solar or other non-fossil-fuel-based capacity. If so, between 3 and 28 coal-fired plants of 1,500 MW capacity would be required for full electrification.

Somewhat more than the projected minimum of 7,580 MW of out-of-basin capacity and possibly as much or more than the 46,060 MW total may be needed to implement the plan (SCAQMD, 1988a; 1988b). Actual out-of-basin capacity can reasonably be expected to require between 7 and 32 1,500-MW coal-fired plants power and may be as high as 50 to 60 power plants if load management is only modestly successful.

The electrification proposal could also substantially increase the per capita energy consumption of basin residents because the combined energy costs of production and operation of battery-powered electric vehicles is about 50% greater than the costs of conventional automobiles. Capacity to offset transmission losses inherent in out-of-basin electrification would require roughly another 8% (Hughes et al., 1976).

¹ Prepared by SRI International

3-81

Power demands as estimated in Attachment 5 are related strictly to the electrification strategy. The Potential Power Supply Matrix for the Basin estimates the contribution of energy generation by in- and out-of-Basin sources based only on the needs of the electrification strategy. Energy demands due to growth are addressed in the California Energy Commission "Electricity Report 7" which discusses modeling to forecast incremental electric power demands based on population growth. Please refer to the responses to comments 3-74 and 3-80, as well as to Attachment 5.

3-82

Your comment is noted. Please refer to comment 3-81.

The upper bound of this range of capacity would equal about 2% of the CO₂ emissions for the United States and 0.5% of the global emissions for 1985 as estimated by the Council on Environmental Quality (CEQ, 1977) and the Department of Energy (DOE, 1980). These percentages are a small portion of the total; actual increases would be much smaller since the proposed electrification would displace existing CO₂ emissions. Still these emissions represent one of the world's larger individual sources. Consequently, they would comprise a nontrivial ongoing contribution to the greenhouse effect. This impact could be wholly avoided only through use of solar or nuclear power, but it could be reduced somewhat by heavier reliance on in-basin natural gas-powered fuel cells rather than out-of-basin coal-fired power plants with their attendant higher energy conversion and transmission losses.

Regionally, the proposed coal-based generation capacity would significantly affect visibility in the Southwest and adversely intrude on the scenic qualities of national parks if the plants were situated on or near the Colorado Plateau. Compliance with the Clean Air Act would consequently be questionable. The electrification scenario also raises concerns about acid deposition and electromagnetic radiation exposure. The remainder of this section addresses these concerns in more detail.

Greenhouse Effects

Assumptions

The EIR does not address the possibility of changing background concentrations of atmospheric gases as the AQMP is implemented, although such changes are occurring rapidly. CO₂ concentrations in the atmosphere have risen more than 30 ppm in the last 30 years (about 10%) and appear to be increasing exponentially (IIED and WRI, 1987). Current estimates developed under World Meteorological Organization sponsorship indicate a probable increase in average global temperature of roughly 1 degree C by the year 2020, with greater increases in a latitudinal zone spanning the contiguous United States (Jäger, 1988). Concern over these changes has expanded from the scientific arena to broad public awareness. Regulatory actions prompted by this awareness can plausibly be expected by the end of the century as changes of this magnitude could significantly affect the U.S. economy.

Controls on CO₂ emissions, if implemented, would severely limit the efficacy of the AQMP's proposed reliance on "clean fuels" and coal-based electrification. If current public concerns regarding nuclear fission-based electric power remain unanswered, or grow, the only alternatives will be use of solar power whenever possible and efficient use of fossil fuels and direct combustion such as in fuel cells in all other cases.

Effects

Continued increases in the atmospheric concentration of CO₂ are predicted to lead to major global climatic changes, even though the expected temperature changes cannot yet be demonstrated. Such changes may be generally accepted by the meteorological community within the period covered by the AQMP; such acceptance would surely lead to laws and regulations that limit or prevent the proposed use of fossil fuel power plants for electrification of the basin, if such laws are not already then in place.

3-83

As noted in the responses to comments 3-77 and 3-82, the potential supply matrix developed for the AQMP does not require that any new fossil-fuel or nuclear power plants be built solely to carry out the electrification strategy for the AQMP. Attempts to project alternative power generating scenarios and attribute geographical location and environmental impacts to the scenario are speculative and are not required under CEQA. Please also refer to Attachment 4.

3-84

The EIR does not address changing background concentrations of upper atmospheric gases as the AQMP is implemented. The dynamics of the processes that affect greenhouse gases are still uncertain. Attempts to address potential changes in background concentrations of these gases are addressed at a very general level in the response for comment 2-110.

3-85

Your comment is noted. Controls on CO₂ emissions are not proposed as AQMP control strategies nor are they required based on additional data provided in the response for comment 2-100.

3-86

Your comment is noted. Please refer to the response for comments 3-84 and 3-85.

3-82 CO₂-induced temperature increases in themselves are unlikely to be noticeable in the Los Angeles Basin, even though the temperature increases at that latitude may be above the global average. However, the climatic shifts induced by changes of 1 to 2 degrees in mean global temperature could severely effect the basin. The warm interval known to have occurred about 6,000 years ago was a time of drought in much of the United States (Kellogg, 1978). Recurrent droughts would severely affect the basin's water supply and quite possibly exacerbate the basin's air quality problems by altering the intensity, duration, or frequency of inversions. These impacts on air quality in the basin may be further intensified by interaction with increased irradiation of the lower atmosphere by UV-B light caused by simultaneous intensification of stratospheric ozone depletion. As a chemically active form of illumination, increased UV-B would accelerate the deterioration of materials, thereby altering both the flux of organics to the atmosphere and the rates of chemical reactions in the atmosphere.

3-88 Implementation of a purely solar-based electrification plan is probably impractical given the AQMP's short-term goals; it may also be impractical in the long term. However, substantial global and regional improvements in air quality could be obtained, at minimal societal cost, by emphasizing compressed natural gas and, as soon as possible, fuel cell technologies for automotive and other uses. Because the distribution system for natural gas is in place throughout both the basin and the nation, and because this infrastructure could be readily adapted for compressed natural gas servicing of automobiles, societal disruptions and costs would be minimal. Shifts to methanol would require substantially greater changes. A hybrid solar/natural gas approach would also, as noted earlier, avoid the risk of a major coal-based investment that may not be permitted to operate because of future CO₂ emission regulations.

Visibility Effects

3-89 Given the stringency of California's air quality regulations, additions of coal-fired power plants within California is highly unlikely, and "out-of-basin" thus means out-of-state. However, the adjacent states have exceptionally clear air with visibility ratings equal to or greater than those of the Sierra Nevada (Malm and Molenaar, 1984). Atmospheric extinction (hence visibility), in this region is most strongly related to fine sulfate concentrations (Johnson and Malm, 1984; Malm and Gebhart, 1988), which are strongly affected by coal-fired power plants (Malm et al., 1988). Consequently, the proposed addition of 7 to 30 plus 1,500-MW coal-fired plants will be exceedingly difficult to site, given the constraints of the Clean Air Act, and may not be possible at all.

3-90 The proposal for complete electrification would cause massive increases in the sulfate load of the atmosphere in the Southwest, potentially causing substantial reductions in visibility, but even the lower estimates for electrification would have significant impacts. The estimated current 5,500 tons/year of SO_x emissions for the entire basin (EIR, Table 2-1) are exceeded by the 60,000 tons/year actually emitted by the 2,500-MW Navajo plant and the allowable emissions of the 2,000-MW Four Corners plant alone (Malm et al., 1988; Gebhart, et al., 1988). Substitution of coal for present power supplies in the SCAB in any amount will have substantial effects in the Southwest, where pollution is roughly double that of the early 1980s (Nochumson, 1982).

3-87 Your comment is noted. Please refer to the response for comments 3-84 and 3-85.

3-88 Your comment is noted, but may not be valid for revised predictions. SCE in cooperation with LUZ International is presently operating, constructing, or permitting a few hundred megawatts of solar thermal power generating facilities in the California Desert.

3-89 Your comment is noted. Please refer to the responses for comments 3-77 and 3-84.

3-90 Your comment is noted. Please refer to the responses for comments 3-77 and 3-84.

3-91

The area and intensity of impacts on air quality are unlikely to be simple multiples of present emissions, but even the EIR's optimistic estimate of an additional 10,000 MW could affect an area several times larger than the present area suffering from visibility degradation. Even this minimal estimate of the needed capacity would cause emissions at least five times those at the Four Corners plant, where emissions already affect air quality over an area with a radius of several hundred miles (Malm et al., 1988; Gebhart et al., 1988). Even if the radius of impacts of the new plants is assumed to be only 100 miles, Figure 13 shows that virtually all the Southwest is excluded as a possible area in which large coal-fired plants could be sited without degrading visibility in national parks, monuments, and recreational areas. Siting in Mexico would be possible, but importing power from plants whose emissions could affect lands protected by the Clean Air Act would surely meet with objections.

Acid Deposition

3-92

Electrification through use of coal-fired plants will markedly decrease the intensity of acid deposition in the basin, but will do so with a net increase in acid deposition to the environment at large. Given California's air quality regulations, all this increase, and most existing acid deposition in the basin, would be transferred out of state. This effect is not trivial, for emissions from Southern California already account for 18% of the variance in the fine sulfate aerosol load in the Southwest (Malm et al., 1988; Gebhart et al., 1988; Sisler et al., 1988). Since the Four Corners plants account for another 13%, installing new capacity in the region would create an emissions load that would heavily affect the air emissions of Utah, Arizona, Colorado, and New Mexico. The load would also affect the ability of certain urban centers, such as Phoenix and Denver, which already have air quality problems, to comply with federal emission standards.

The effects of this deposition are generally held to be less severe in the deserts of the Southwest than in either the eastern United States and the alpine forests immediately downwind of the basin (Altshuller et al., 1983), but they cannot be assumed to be negligible without further study. Transient events, analogous to the spikes of extreme acidity that characterize the first snowmelt in Scandinavia, may characterize events in the desert and alpine regions of the American Southwest.

Hazardous Waste

3-93

Electrification of the basin will create a hazardous materials handling problem and could create a waste problem of potentially significant proportions. Batteries based on lead, cadmium, nickel, or iron appear most promising in the near term, but have a limited lifetime. Given the AQMP's estimate (SCAQMD, 1988a) of from 5.7 to over 7 million cars in the basin and an optimistic estimate of 600 lb of batteries per car, a minimum of 1.7 million tons of material would have to be recycled or disposed of every 5 to 10 years.

3-94

Disposal of any batteries or their constituents that cannot be recycled would be a significant problem in the basin. Disposal of wastes outside the basin would be a lesser problem, but would still require careful attention. Coal combustion alone would create a solid waste stream containing, per 1,500-MW plant, 3 tons/year each of arsenic and

3-91

Your comment is noted. Please refer to the responses for comments 3-77 and 3-84.

3-92

Please refer to Attachment 5.

3-93

Your comment is noted. It is recognized that increased use of batteries would require increased recycling of heavy metals. However, the specific locations and emissions from these operations are not known. Please refer also to the responses for comments 1-43, 1-45, and 2-13.

3-94

The sources, locations, and fuels used to generate electricity for electrification are undetermined at this time. It would be speculative to incorporate quantitative estimates for emissions or exposures to coal-derived particulates into the EIR at this time. Please refer to the response for comment 3-93.

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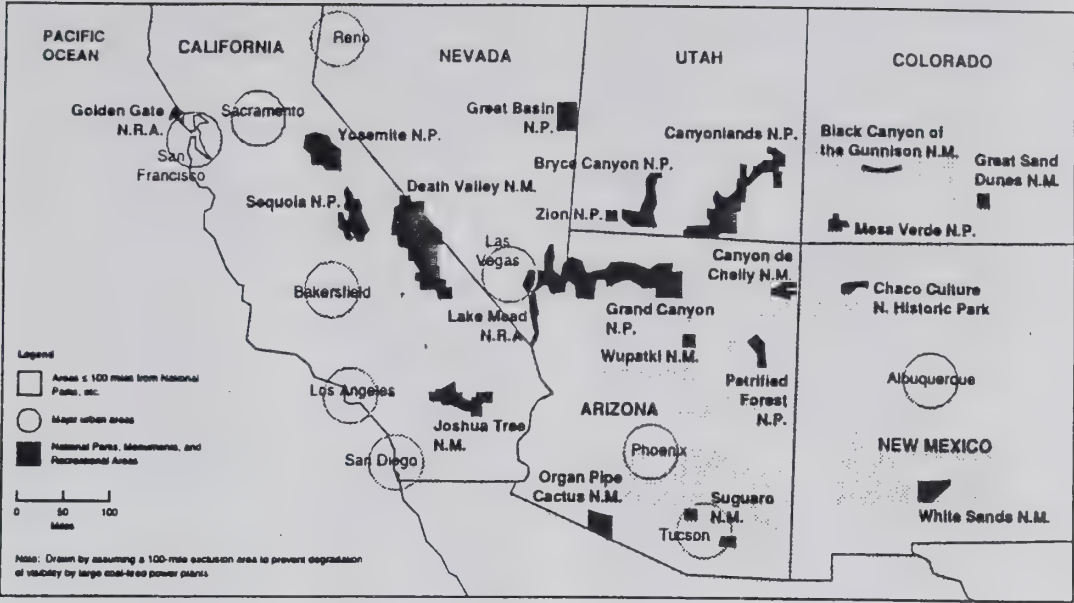


Figure 13
BUFFER AREA TO PROTECT VISIBILITY IN NATIONAL PARKS AND MONUMENTS OF THE SOUTHWEST

3-94

selenium, 14 tons of lead, and 1.5 tons of beryllium. Substantial amounts of other potentially hazardous materials such as fluorine (166 tons/year) and manganese (58 tons/year) would also be present. Air emissions of these elements typically would equal 1-10% of the solid waste tonnages (DOE, 1980).

Electromagnetic Radiation

3-95

The EIR recognizes the possibility of electromagnetic effects from new transmission lines needed under the electrification scenario. In addition, adverse effects from nonionizing radiation from other electrical equipment incorporated into industrial processes are also possible. The risk from these sources and the causal mechanisms are unknown, but a growing body of research raises questions about health effects.

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3-95

The December, 1988 EIR notes that there may be a possibility of health effects from electromagnetic fields from transmission lines. The existence or nature of such effects are unresolved scientific issues at this time. It must be recognized that electromagnetic fields are ubiquitous in our environment due to both industrial and nonindustrial uses (e.g., toasters, hair dryers, electric blankets) and exposure from these sources is far greater than from emission lines.

With regard to industrial sources of nonionizing radiation, it would be speculative to estimate the specific types of radiation (i.e., laser, microwaves, ultrasonic devices) and exposures that may result from electrification. These issues must be evaluated on a case-by-case basis once power plants and transmission line locations and alignments are established. Mitigation through route alignment is probable in many instances, but potentially significant adverse impacts may occur.

0000210

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VII. COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT

C. Economic Impacts

3-96 The EIR states on page 4-18-1 that " the spending on pollution control equipment and other measures to reduce emissions will be an economic stimulus to the Basin's economy. In total, the gross regional product would rise by roughly two percent, and 84,222 new jobs would be created." This statement is not supported by documentation or references in the AQMP. Public review of this document is impossible if the analysis behind critical statements are not provided. SoCalGas requests all supporting documentation utilized in the economic impact analysis of the AQMP be made available for public review.

3-97 SoCalGas has conducted an analysis of the economic impacts of the AQMP's stationary source NOx control measures on the residential, commercial and industrial sectors. The results of our study are presented below for two scenarios. The first scenario assumes all Tier I and II NOx control requirements are implemented. The second scenario assumes gradual phase-in of electric equipment for combustion sources during the next twenty years.

Tier I and II Case

3-98 Table VII-1 shows the retrofit and new equipment cost, by industry, required to comply with the Tier I and II control measures. The total capital investment for all industries is estimated to be \$ 1.5 billion, while the average annual cost is around \$320 million. The most heavily affected industries would be the utility electric generators, SIC 20 - food and kindred products, SIC 29 - petroleum refining, SIC 32 - stone, clay, glass and concrete, and SIC 33 and 34 - primary and fabricated metals.

The effect of these emission control costs on the local economy are manifested in lower production levels due to reduced cost competitiveness with companies located outside the air basin. The value added lost from this competitive disadvantage is shown in Table VII-2. These estimates were developed based on data from the Bureau of Census Survey of Manufacturers for 1982 updated to 1987. The local economy is projected to lose \$2.5 billion annually by 2007 due to these emission control costs. The net present value of these costs is \$3.90 per person per day.

Tier III Electrification Case

3-99 Table VII-3 shows the cost of NOx controls with full implementation of Tier III electrification. The assumption made in this analysis is that all residential, commercial and industrial gas use would be completely phased out by 2007. The equipment cost and efficiency assumptions utilized in this analysis are summarized in Table VII-4.

The capital cost of electrification is estimated to be about \$5.2 billion per year by 1993 or about \$545,000 per ton of NOx reduced. A value far above the \$24,500 per ton currently considered cost effective by the SCAQMD.

3-96

The statement on page 4-18-1 of the EIR was in error. Refer to Appendix F, pages F-1 through F-4, for a corrected discussion of the output and employment effects of growth in the pollution control industry. The estimates provided there indicate an increase in spending of \$2.9 billion and an increase in employment of 29,000 jobs due to the purchase and installation of pollution control equipment for Tier I measures.

3-97

Your comment is noted. In order for the District to evaluate Southern California Gas's analysis, details and assumptions such as the rate of phase-in of electric equipment must be known.

3-98

The results of Southern California Gas Company's calculations cannot be evaluated until detailed data used, including assumptions, are provided.

3-99

The revised electrification strategy relies on specific electrification measures in the industrial and transportation sectors only. As a result, the overall cost of the electrification strategy has been reduced substantially. Consequently the impact of the electrification strategy should also be reduced.

3-100

The \$5.2 billion annual cost does not include the reduction in value added due to a decrease of industrial output in the basin. That figure is an additional \$18.5 billion per year by 2007 (see table VII-5). Added together, the total cost per ton of NOx reduced in 2007 is about \$1,939,000 per ton. Clearly electrification cannot be supported on a cost benefit basis.

3-101

From an individual homeowner's standpoint, electrification would raise the average utility bill between \$219 to \$712 per year (see attachment VII-1). An increase of from 31 to 76% depending on the efficiencies of the electric appliances. This also assumes no cost for equipment purchase and installation and also assumes no escalation in electricity prices. Clearly, electrification is not a preferred alternative for residences.

3-100

Your comment is noted and does not coincide with estimates in Appendix F. As noted in the response to comment 3-97, the District can only evaluate SCG's projections with detailed information on the forecasting methodology. Then the reasons for differences can be characterized.

3-101

Your comment is noted. The electrification strategy has been modified and it now excludes the residential sector. Please refer also to the response for comment 3-100.

TABLE VII-1

COST OF NOX EMISSIONS' REDUCTION IN SOUTH COAST AIR BASIN
Tier I and II Case 1987-2007
(\$1987 THOUSANDS/YEAR)

Source Category	EQUIPMENT COST	1993	1998	2003	2007
UEG Boilers and Turbines	\$325,668	\$67,038	\$67,038	\$67,038	\$67,038
IC Engines	\$11,680	\$2,404	\$2,404	\$2,404	\$2,404
SIC 13 and 14, Oil & Gas Extraction	\$38,304	\$7,885	\$7,885	\$7,885	\$7,885
SIC 20 Food and Kindred	\$102,514	\$21,102	\$21,102	\$21,102	\$21,102
SIC 22 Textile Products	\$15,484	\$3,187	\$3,187	\$3,187	\$3,187
SIC 24 and 26 Lumber, Wood & Paper	\$19,040	\$3,919	\$3,919	\$3,919	\$3,919
SIC 28 Chemicals	\$44,688	\$9,199	\$9,199	\$9,199	\$9,199
SIC 29 Petroleum Refining	\$161,630	\$33,271	\$33,271	\$33,271	\$33,271
SIC 32 Stone, Clay, Glass & Concrete	\$102,430	\$21,085	\$21,085	\$21,085	\$21,085
SIC 33 Primary Metals	\$92,810	\$19,105	\$19,105	\$19,105	\$19,105
SIC 34 Fabricated Metals	\$91,294	\$18,793	\$18,793	\$18,793	\$18,793
SIC 37 Transportation Equipment	\$54,622	\$11,244	\$11,244	\$11,244	\$11,244
SIC 23, 25, 27, 30, 31, 35, 36, 38 and 39 Misc. Manufacturing	\$313,610	\$64,556	\$64,556	\$64,556	\$64,556
Total IC Engine, Indust. & Exchange	\$1,048,106	\$215,751	\$215,751	\$215,751	\$215,751
Residential Fuel Combustion	\$0	\$0	\$0	\$0	\$0
Cogeneration	\$109,592	\$22,859	\$25,343	\$25,044	\$25,044
Resource Recovery	\$25,210	\$5,258	\$7,648	\$7,722	\$7,722
Commercial and other Stationary	\$3,642	\$5,277	\$5,452	\$5,853	\$6,155
TOTAL NOX REDUCTIONS COSTS \$1987/TON	\$1,512,218	\$316,183 \$13,874	\$321,232 \$12,682	\$321,417 \$14,091	\$321,710 \$14,132

TABLE VII-2

REDUCTION OF VALUE ADDED IN THE SOUTH COAST AIR BASIN
Tier I and II Case 1987-2007
(\$ 1987 THOUSANDS/YEAR)

Source Category	1987	1993	1998	2003	2007
UEG Boilers and Turbines	\$0	\$122,638	\$179,926	\$132,067	\$131,655
IC Engines	0	29,820	29,820	29,820	29,820
SIC 13 and 14, Oil & Gas Extraction	0	11,800	10,977	9,405	7,317
SIC 20 Food and Kindred	0	51,738	48,131	41,237	32,080
SIC 22 Textile Products	0	4,513	4,941	5,189	5,507
SIC 24 and 26 Lumber, Wood & Paper	0	11,975	10,139	7,261	4,835
SIC 28 Chemicals	0	41,987	52,505	60,479	72,948
SIC 29 Petroleum Refining	0	51,491	56,847	64,450	77,409
SIC 32 Stone, Clay, Glass & Concrete	0	20,653	20,929	20,422	22,036
SIC 33 Primary Metals	0	21,357	25,487	24,622	27,611
SIC 34 Fabricated Metals	0	35,491	38,728	41,363	44,873
SIC 37 Transportation Equipment	0	142,356	151,615	157,595	162,788
SIC 23, 25, 27, 30, 31, 35, 36, 38 and 39 Misc. Manufacturing	0	907,742	1,028,960	1,197,132	1,492,550
Total Industrial & IC Engines	\$0	\$1,301,103	\$1,449,261	\$1,629,154	\$1,949,953
Residential	0	0	0	0	0
Cogeneration	0	0	0	0	0
Resource Recovery	0	0	0	0	0
Commercial and Other	0	271,775	280,774	311,937	363,840
TOTAL REDUCTION IN VALUE ADDED IN SCAQMD	\$0	\$1,725,337	\$1,939,782	\$2,102,979	\$2,475,268

\$1000

TABLE VII-3

COST OF NOX EMISSIONS REDUCTION IN SOUTH COAST AIR BASIN
With Phase III Electrification Case
(\$1987 THOUSANDS/YEAR)

Source Category	EQUIPMENT COST	1993	1998	2003	2007
UEG Boilers and Turbines	\$488,502	\$100,557	\$100,557	\$100,557	\$100,557
IC Engines	\$11,680	\$98,164	\$98,164	\$98,164	\$98,164
SIC 13 and 14, Oil & Gas Extraction	\$115,007	\$54,221	\$54,006	\$54,557	\$55,538
SIC 20 Food and Kindred	\$452,543	\$282,424	\$269,228	\$255,316	\$240,393
SIC 22 Textile Products	\$65,727	\$91,895	\$99,331	\$95,816	\$96,711
SIC 24 and 26 Lumber, Wood & Paper	\$105,683	\$88,129	\$77,957	\$69,485	\$65,952
SIC 28 Chemicals	\$179,185	\$125,055	\$127,584	\$124,182	\$128,166
SIC 29 Petroleum Refining	\$222,327	\$875,144	\$864,227	\$794,916	\$786,179
SIC 32 Stone, Clay, Glass & Concrete	\$410,419	\$296,893	\$297,634	\$273,279	\$275,554
SIC 33 Primary Metals	\$1,000,004	\$419,758	\$429,104	\$392,523	\$394,611
SIC 34 Fabricated Metals	\$609,159	\$302,620	\$318,785	\$314,679	\$317,659
SIC 37 Transportation Equipment	\$302,839	\$210,517	\$220,154	\$216,362	\$215,400
SIC 23, 25, 27, 30, 31, 35, 36, 38 and 39 Misc. Manufacturing	\$1,767,236	\$597,694	\$628,930	\$635,924	\$655,417
Total IC Engine, Indust. & Exchange	\$5,241,809	\$3,442,514	\$3,485,105	\$3,325,204	\$3,329,744
Residential Fuel Combustion	\$6,921,600	\$1,487,019	\$1,531,629	\$1,577,578	\$1,624,905
Cogeneration	\$219,184	\$45,717	\$25,343	\$25,044	\$25,044
Resource Recovery	\$25,210	\$5,258	\$7,648	\$7,722	\$7,722
Commercial and other Stationary	\$362,560	\$77,891	\$80,228	\$82,635	\$85,114
TOTAL NOX REDUCTIONS COSTS \$1987/TON	\$13,258,865	\$5,188,957	\$5,230,511	\$5,118,740	\$5,173,087
		\$544,873	\$777,781	\$831,173	\$738,126

TABLE VII -4

NATURAL GAS VS. ELECTRIC EQUIPMENT COST SUMMARY

9/88

EQUIPMENT TYPE	EQUIP. SIZE	NATURAL GAS EQUIPMENT				ELECTRIC EQUIP.			
		CAPITAL COST	EFF. (%)	NOx CONTROL EQUIPMENT	NOx CONTROL COSTS (\$)	UNCONT. EMISSIONS (%/PPHb)u	CONTROLLED EMISSIONS (%/PPHb)u	ANNUALIZED* POLLUTION CONTROL COSTS	EMISSION OFFSET COSTS*
HOMESIDE NATURAL GAS ISLAND	911w	3,500,000	38	SCR	800,000	0.28	0.03	\$ 37/PPHb	\$ 36/PPHb
	201w	7,000,000	36	SCR	900,000	0.28	0.03	\$ 30/PPHb	\$ 36/PPHb
	401w	8,500,000	35	SCR	1,300,000	0.28	0.03	\$ 26/PPHb	\$ 36/PPHb
POWER	2001w	30,000	84	LOW-NOx BURNER	20,000	0.1	0.05	\$ 25/PPHb	\$ 6/PPHb
	5001w	75,000	81	LOW-NOx BURNER	30,000	0.14	0.05	\$ 11/PPHb	\$ 6/PPHb
	40001w	350,000	84	LOW-NOx B/SCR	60,000/250,000	0.14	0.01	\$ 06-79/PPHb	\$ 6-12/PPHb
ENGINE/GENERATOR	2001w	63,000	28	CATALYST/PS	5,000	3.4	0.4	\$ 7/PPHb	\$ 49/PPHb
FURNACE	FORGE 40 PPHb	280,000	30	LOW-NOx B/SCR	190,000	0.2	0.05	\$ 23/PPHb	\$ 6/PPHb
	HEAT TREATING 63 PPHb	250,000	40	LOW-NOx BURNER	15,000	0.14	0.04	\$ 26/PPHb	\$ 5/PPHb
	METAL MELTING 15 PPHb	53,000	35	LOW-NOx BURNER	18,000	0.14	0.04	\$ 8/PPHb	\$ 5/PPHb
	GLASS MELTING 3 PPHb	80,000	30	LOW-NOx B/SCR	80,000	0.8	0.15	\$ 19/PPHb	\$ 18/PPHb
	OTHER (CRUCIBLE) 0.8 PPHb	15,000	40	LOW-NOx BURNER	2,000	0.14	0.04	\$ 29/PPHb	\$ 5/PPHb
HEMISPHERIC	1 PPHb	50,000	55	LOW-NOx BURNER	5,000	0.13	0.05	\$ 65/PPHb	\$ 6/PPHb
DRYER (TUMBLER, IN)	13 PPHb	64,000	50	ELECTRICITY	NA	0.02	0.02	0	\$ 75/PPHb
	(CONTINUOUS) 20 PPHb	70,000	35	LOW-NOx BURNER	15,000	0.1	0.04	\$ 0.7/PPHb	\$ 0.5/PPHb
OVEN (BATCH)	1 PPHb	25,000	35	LOW-NOx BURNER	2,000	0.1	0.04	\$ 16/PPHb	\$ 0.5/PPHb
SPACE HEATER	0.146 PPHb	2,846	79	NOx	0	0.09	0.09	0	\$ 1.1/PPHb
WATER HEATER	0.120 PPHb	700	76	NOx	0	0.09	0.09	0	\$ 1.1/PPHb
RESIDENTIAL SPACE HEATER		2,200	72	NOx	0	0.09	0.09	0	\$ 1.1/PPHb
WATER HEATER		250	76	NOx	0	0.09	0.09	0	\$ 1.1/PPHb
DRYER		350	76 %/III	NOx	0	0.13	0.13	0	\$ 1.6/PPHb
POOL HEATER		2,000	80	NOx	0	0.13	0.13	0	\$ 1.6/PPHb

* Assumes 0.14 COP, costs divided over annual op. hours at full load. SCR operating costs = \$3. of capital costs.

* Assumes \$24,500/ton NOx for offsets. Offset costs are based on controlled emissions for actual operating hours.

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RESIDENTIAL ELECTRIFICATION IMPACT

ON UTILITY BILLS

If homes are forced to be all-electric, as envisioned under Plan 3 of the SCAQMD's proposed Tier 3 electrification study in the Draft AQMP, utility bills would rise substantially since operating costs of electric appliances are often much higher than their gas-fired counterparts. For a simple demonstration of this impact, compare the typical residential gas plus electricity bill of today's environment versus the electric bill of an all-electric home. Current appliance usage rates and utility rates will be assumed, although massive electrification would likely push electric rates higher. A hypothetical 20% rate increase is also analyzed for comparison.

Assumptions:

Current average gas rate:	54¢/therm
Current average electricity rate (SCE)	9.6¢/kWh
Current annual gas consumption:	672 therms/year/household
Current annual electricity consumption:	5,925 kWh/year/household
Post-electrification gas consumption:	0

Post-electrification electricity consumption:

SoCalGas estimated how much electricity it would take to replace the current function of gas appliances, using a range of efficiencies and technologies. A typical household would require the additional use of at least 6,800 kWh/year to replace gas appliances, assuming electric heat pump water heating and state-of-the-art heat pump space heaters. The use of resistance water heating and average-efficiency heat pump space heaters would require 11,200 kWh/year of additional use.

Summary: Increased electricity use of 6,800-11,200 kWh/year
 + Existing electricity use of 5,925 kWh/year
 = Post-electrification use of 12,725-17,125 kWh/year

Pre-electrification utility bills (gas + electric)

672 therms gas/year x \$.54/therm + 5,925 kWh elect./year x \$.096/kWh
 = \$932/year/household

Post-electrification utility bills (electric)

At current rates: (12,725 to 17,125 kWh/year) x \$.096/Kwh
 = \$1,222 to \$1,644/year/household

For an increase of \$290 to \$712/year/household (= 31% to 76% increase)

At 20% rate increase: (12,725 to 17,125 kWh/year) x \$.1152 kWh

= \$1,466 to \$1,973/year/household

For an increase of \$534 to \$1,041/year/household (= 57% to 112% increase)

Note: No capital cost considerations are included, which is very substantial for the high efficiency electric appliances.

VII. COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT

D. Specific Comments on the EIR

Presented below are SoCalGas specific comments on miscellaneous information presented in the the Draft EIR.

Notice of Preparation - The Notice of Preparation for the EIR lists the emission reductions required to meet air quality standards. These values are considerably higher than the Tier III emission limits listed in the Draft AQMP (page 4-36).

Source	EMISSIONS (tons/day)				
	ROG	NOx	CO	SOx	PM
EIR Notice	250	470	2100	40	500
AQMP	200	242	627	30	1361

Explain why these two AQMP documents present different emission limits and how does this affect the validity of the EIR.

Pg. 2-14 & 15 The ROG Controls Only Alternative analysis states "this strategy has not been fully modeled, yet it is unlikely that implementation of this strategy would permit attainment." There is considerable disagreement among the academic community as to the effectiveness of the proposed AQMP alternatives due, primarily, to the controversy over the importance of ROG/NOx ratios and other modeling uncertainties. Some modelers have demonstrated that NOx controls can increase ozone levels and that "ROG only" control strategies are the most effective in reducing peak ozone concentrations. (Chock and Heuss, 1987)

In view of this fact, why was the airshed model not utilized to evaluate this alternative scenario rather than rely on speculation as to its effectiveness?

3-102

Please refer to Table 5-3 which addresses your comment. The Notice of Preparation for the EIR used preliminary numbers on emissions reductions which have been further refined as the AQMP was developed. Values in Table 5-3 reflect District conclusions regarding Basin emission carrying capacity.

3-103

Please refer to and Attachments 1, 2, and 3.



ADDRESS ALL COMMUNICATIONS
TO THE COMMISSION
800 VAN NESS AVENUE
SAN FRANCISCO, CALIFORNIA 94108
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Public Utilities Commission

STATE OF CALIFORNIA

RESPONSES TO COMMENTS
PUBLIC UTILITIES COMMISSION (11/07/88)
COMMENT LETTER #4

November 7, 1988

Suzanne Reed
Special Projects Coordinator
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

Re: Comments on the Environmental Impact Reports for the Air
Quality Management Plan and Rules 1134 and 1135.

Dear Ms. Reed: (SCH No. 88021022)

The California Public Utilities Commission (CPUC) is pleased to comment on the South Coast Air Quality Management District's far reaching plan to bring air quality in the Los Angeles basin into compliance with federal air quality standards. These comments are directed at the Environmental Impact Reports (EIRs) for the District's Air Quality Management Plan and for Rules 1134 and 1135.

The CPUC is the constitutionally-established state agency whose responsibility is to regulate investor-owned utilities in California. The CPUC has broad powers to ensure that private utilities provide reliable service at just and reasonable rates. Utilities regulated by the CPUC, including Southern California Edison (SoCal Edison) and Southern California Gas (SoCal Gas), supply the majority of the gas and electric services to the Los Angeles basin. The District's AQMP proposes significant, long-lasting changes in how a wide range of energy services are provided to the basin's residents. As a result, our comments are motivated by the clear potential for the AQMP to have tremendous impacts on the costs and conditions of the services which SoCal Edison and SoCal Gas provide.

The CPUC fully supports the District's goals, and we recognize the enormity of the challenge which the District faces in devising a plan which will result in compliance with federal air quality standards. Although, as these comments will detail, we disagree with some important aspects of the AQMP, we offer our criticisms with a pledge to work with the District in an effort to resolve the concerns of our respective agencies and of all other affected parties. We believe that it is only with such a cooperative spirit that the goal of clean air can be achieved at an acceptable cost to the basin's residents and to its economy. As a first step toward such cooperation, we have attached to our comments on the EIRs a short description of how air quality

(Responses to comments on a following page)

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concerns are playing an increasingly important role in the CPUC's regulatory process.

Air Quality Management Plan EIR

1. Selection and Evaluation of Alternatives

4-1 The summary and project description list six alternatives to the proposed project. However, in Chapter 5, where the alternatives are evaluated, only five alternatives are included. The sixth alternative, the one not discussed, is the control of Reactive Organic Gases (ROGs) only -- an alternative which some parties feel strongly should be evaluated further. The EIR mentions in the summary and project description section that the ROG only alternative has not been fully modelled, but that it is unlikely it will achieve the standards. The EIR does not recommend completing the modelling, nor does it list the options if the modelling shows that this alternative does achieve the standards, nor does it mention that this option is about one third the cost of the proposed project. The CPUC believes that this is an important example of why the District needs to take additional time in order to evaluate carefully all possible options to attain air quality standards. This will ensure that the District is able to choose the most cost-effective path to its objectives.

4-2 The alternatives considered do not look at various mixes and levels of control strategies based on a marginal cost effectiveness analysis. The EIR asserts that anything less than the proposed project will not achieve the standards. However, there is nothing in the analysis to support this. In addition, the evaluation and discussion of alternatives in Chapter 5 is quite cursory, lacking supporting evidence for the conclusions on how well they would meet the standards, or on the costs involved. 4-3 Finally, there is no acknowledgement that other alternatives may exist to achieve the same level of emissions at a lower cost.

2. Economic Analysis

4-4 Although an adequate economic analysis is not specifically required by CEQA, such a study is essential for a plan of this magnitude and with such far-reaching ramifications. For example, there is no side-by-side comparison of the level of reductions required by each source and the cost of reductions on a marginal cost or even cost per ton basis. This makes it difficult, for instance, to evaluate the overall benefits of Rules 1134 and 1135 in comparison to other control measures. 4-5 From the information presented in the plan, the appendices, and the EIR, it is impossible to determine what the overall economic impacts of this proposal might be. Many of the proposed controls are very vague as to how they would actually be implemented and what the results would be. It is clear, though, that the control

4-1 Refer to Attachments 1 and 2 of this Addendum for a detailed discussion of alternatives to the Plan. The December, 1988 EIR also contained substantial additional information.

4-2 Refer to Attachments 1 and 2 of this Addendum for a detailed discussion of alternatives to the Plan. Additional economic information is provided in Appendix F.

4-3 Refer to Attachments 1 and 2 of this Addendum for a detailed discussion of alternatives to the Plan. Please refer to the responses to comments 1-15 and 2-1.

4-4 Cost effectiveness is only one criterion by which control measures are evaluated. Other criteria are listed in "Path to Clean Air: Policy Proposals for the 1988 AQMP," p.12. A ranking of control measures by cost-effectiveness is contained in the response to comment 7-3. While the cost-effectiveness of control measures, compared for various sources, is useful to inform rule adoption decisions, there is no attempt to equalize control costs across sources or industries. Instead, upper limits on cost-effectiveness ratios determine whether a specific control measure is cost-effective.

4-5 Based on the cost of most of Tier I stationary control measures, the socioeconomic impacts of the AQMP have been quantified for some key parameters. The analysis is provided in Appendix F of the December, 1988 EIR.

Economic assumptions which are plausible in the short-run become more unrealistic the further they are extended into the future. Predicting the AQMP's full economic and social effects on SCAB would require predicting the long-term behavior of variables which are beyond the information available at this time. To inform the public and help in policy decision, the District has provided some general insights regarding the possible economic and social impacts and has identified a few of the challenges confronting the community.

As the District moves through the process of rule development, the specific technical and economic feasibilities of each control measure will be evaluated as is appropriate in a tiered environmental review process. It is at this time that the full scope of socioeconomic and

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measures will dramatically change so many industries and economic sectors that the effects will be felt in regional, national and even international markets.

For a great number of the control measures proposed, cost estimates have not been prepared. This makes it very difficult to try to evaluate the impacts of control measures, especially in the short time frame for review of the EIR. Where costs have been estimated, the EIR has only looked at total costs per industry and the cost per ton of emission reduction. This can overlook some very important choices. For example, it may be possible that the last 10-20% of emission reduction may represent a much larger portion of total costs. If the last 10% of emissions reduction costs as much as the first 90%, are the related benefits great enough to justify that expenditure? We believe that an attempt should have been made to do a marginal cost/marginal benefit analysis of control measures.

As a result of the lack of such an analysis, there is nothing to indicate that this is the least cost plan for achieving the goal of meeting air quality standards. Certain industries may be able to implement controls in addition to those proposed, at a lower cost than the controls proposed for other industries. It is not clear what criteria were used in selecting the proposed controls, such as 1) what was an acceptable cost per ton of emission reduction per industry or sector, or 2) how was the total emission reduction for each industry or sector determined. For example, gas turbines represent only 2% of all NOx emissions. The control measure in Rule 1134, as part of Tier I, requires a 75% reduction in gas turbine emissions while the total reduction of NOx under Tier I is only 63%. Why were gas turbines targeted for greater reductions? The Plan seems to have taken an across-the-board approach, under the assumption that all industries and sources should reduce emissions, regardless of how cost-effective such a strategy is. While there are important issues of equity and sharing the burden of clean air which may argue in favor of such an approach, we believe that cost effectiveness concerns deserve more explicit consideration in the District's planning. A very important benefit of a more systematic approach to a least cost strategy for implementing control measures would be to assist the utilities and regulatory agencies, such as the CPUC and the California Energy Commission, to include more explicitly the costs and benefits of air quality measures in their planning processes.

3. Chapter 4-7 Land Use

The proposed control measure for alternative work schedules and locations does not identify one of the potential impacts. If 20% of the workforce will be working at home and telecommuting, this may increase the peak electricity demand substantially. The workers at home will be running computers and their air-conditioning or heaters. This may create additional

lifestyle impacts of each control measure can be adequately addressed and assessed.

Please refer to the December, 1988 EIR, where substantial additional socioeconomic data are provided. Appendix F summarizes the District's socioeconomic information. Refer also to the responses for comments 2-5, 2-12, and 2-36.

4-6 Please refer to Appendices IV-A-C, Appendix F, and to the responses for comments 1-16, 1-19, 3-4, 3-32, 2-20, and 2-36. Detailed environmental cost-effectiveness analysis can be performed when specific control measures are implemented.

4-7 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Refer to the responses for comments 4-1 through 4-5.

4-8 Although some alternatives to the AQMP may be less costly, they do not achieve attainment of the federal clean air standards. Refer to Attachment 1 for a more thorough evaluation of alternatives.

4-9 No specific criterion for cost effectiveness was used to select the AQMP control measures. Precise determination of cost effectiveness will take place during the rule development process. Total emissions reduction in each industry or sector were determined by multiplying each source by the emissions reduction from its control and aggregating across industries and sectors. Please refer to the response for comment 3-45.

4-10 Your comments are noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. The basis for selecting the control strategy is outlined in the response to comment 3-45. Please refer to the response for comment 4-6 for reference to a discussion of additional alternatives.

4-11 Increased energy demand in Tier I and Tier II due to the Alternative Work Schedules and Locations Control measure have not been specifically estimated. The District will work in cooperation with the California Energy Commission and Basin utilities to identify potential power demands from this measure as the Plan is brought forward for

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minimum load problems for the basin's electric utilities, whose peak demand is already growing much faster than their baseload.

The discussion on electrification and the need for new transmission lines does not identify how many new lines will be needed, but the number would be substantial. The mitigation suggests using or expanding existing corridors. This has inherent problems for reliability and environmental impacts. The siting of so many lines would be a much bigger problem than identified. In particular, there would be tremendous impacts on the communities outside the basin through which the lines run.

4. Chapter 4-14 Energy

Tier 1 proposals for for energy conservation include reactivating the recently canceled Weatherization Financing and Credits Program at SoCal Edison and SoCal Gas. There is no estimate of the costs of the program or the relative costs and benefits, but they would greatly increase demand-side management (DSM) budgets. The effects of this part of the plan include small reductions in load and small emission reduction benefits. SoCal Gas has not proposed re-instating this program in its recently filed general rate case.

The CPUC has already commented at length on the proposal to phase-out use of fuel oil in the basin. Our written comments on this issue, previously submitted to the District, are attached and we ask that they be included in these comments by reference.

The Tier III electrification proposals rely on meeting greatly expanded electricity needs by importing power from out-of-basin sources. The EIR does not adequately address the impacts which exporting pollution emissions out of the Los Angeles basin would have on other regions and states.

5. Chapter 4-15 Electric Utilities and Natural Gas Utilities

Electric Utilities: The increased demands for electricity from Tier I and II strategies have not been estimated. Tier I will likely effect electric utilities most by aggravating their minimum load conditions, as peak loads increase more rapidly than the growth in baseload demands. The EIR does not address this at all. Electrification of 20% passenger cars and 70% freight vehicles in Tier II may help balance this by the recharging of batteries in off-peak hours. But it is not clear what the numbers really would be.

Tier III contains three plans for electrification, with resulting increases in peak demand for the basin ranging from 9100 MW to 45,400 MW. Some general assumptions used in developing these estimates are given in Appendix IV-B, but these are rather broad assumptions. It is not possible to really

implement. Please refer to the responses for comments 2-9 through 2-14 for a general discussion of indirect impacts.

Please refer to the responses for comments 1-57 and 2-9. The number and location of transmission lines will be determined as the electrification strategy is implemented.

The District will work with the California Energy Commission, Public Utilities Commission, and local governments to assist in the development and implementation of effective energy conservation measures. If the recently cancelled Weatherization Financing and Credits Program is deemed an effective energy conservation technique, the possibility exists for its reinstatement. If it cannot achieve forecasted emissions goals, other measures will have to be substituted.

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

Please refer to Attachment 5 and to the responses for comments 2-9 and 2-12.

Please see Attachment 5. Revised Table 4-5, "Energy Forecast for AQMP Electrification Strategy," estimates the increased demands for Tier I, II, and III electrification strategies. Growth in peak demand of about 4,400 MW and nighttime demand of about 9,200 MW is expected. Electrification of vehicles is estimated to add substantially to base load requirements. Load management through off-peak battery recharging of electric vehicles can eliminate a portion of the peak load (1,000-2,000 MW) as indicated in Revised Table 4-6, "Potential Power Supply Matrix for the Basin" in "Proposed Modifications to the Draft 1988 Air Quality Management Plan" (December, 1988).

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estimate the new capacity needed, but it will be very large and it will have to come from new technologies within the basin (such as fuel cells), or from non-combustion generation outside of the basin.

The plan and EIR propose to meet a substantial portion of the energy demand through DSM, ranging from 3,640 MW to 27,300 MW, or close to 60% of the new load. This assumes technological advances such as commercial availability of superconductivity and thermal energy storage. Anything beyond the 3,640 MW in DSM savings is well beyond any current estimates of what can or should be obtained from DSM programs at SoCal Edison. This would require utility DSM programs to be expanded substantially, beginning now, at unknown costs. We believe that the EIR has unrealistic goals for DSM in Tier III under both Plan 2 and 3.

Given the unrealistic assumptions about savings from conservation and load management, it is difficult to identify exactly how much new capacity would have to be supplied from sources outside the basin. This could require importing two to eight times the energy that is purchased outside the basin currently. This might result in as many as 20-25 new 500 kV transmission lines. Besides the obvious difficulties of siting this many lines, it is unrealistic from a number of other standpoints: first, the utilities' systems would be highly unreliable if they were dependent on out-of-state sources for a major portion of their load. This could lead to substantial outages from failure of out-of-state generation sources and from transmission failures. Second, the utilities would be placed in a very weak negotiating position for purchasing power from other utilities, as they really would have no other alternative. Third, in a time when the electric industry is becoming increasingly competitive, companies such as SoCal Edison would be unreasonably constrained in their options. Finally, the cost to ratepayers would appear to be enormous.

Natural Gas Utilities: Our principal comments on the impacts on gas utilities are contained in our comments on the proposed fuel oil phase-out policy. In addition, we note that Tier I measures such as the fuel oil phase-out could result in a significant expansion of the natural gas system which serves southern California, yet the Tier III energy strategy calls for the ultimate phase-out of most use of natural gas. The time frame between the implementation of the Tier I and Tier III plans would not allow an adequate period, under existing ratemaking procedures, for the gas utility to recover the investments necessitated by the Tier I plan. Shortening the period for the recovery of these investments would significantly increase the cost to consumers.

EIRs for Rules 1134 & 1135

We have two general comments concerning both of these EIR's. First, the EIRs do not adequately consider the reasonable

4-17

Attachment 5 and revised Table 4-6, "Potential Power Supply Matrix for the Basin" in "Proposed Modifications to the Draft 1988 Air Quality Management Plan" (December, 1988) shows the additional capacity available as a result of load management techniques including energy conservation and off-peak access. The generation capacity savings listed for conservation measures are consistent with the reduction goals proposed by SCAG.

4-18

Revised Table 4-6, "Potential Power Supply Matrix for the Basin" projects lower amounts of out-of-Basin capacity: 1,500 to 3,000 MW during the daytime and 5,000 to 8,500 MW during nighttime. Consequently, transmission line construction needs are lower. To the extent that expanded transmission capacity cannot use existing corridors, new ones would have to be found. The main environmental impacts of new transmission lines would be the loss of other uses for the land and impairment of scenic views. The scarcity of these impacts will be considered in the environmental review process for transmission line siting. Please refer to the responses for comments 2-9 and 2-12.

4-18a

Although a significant portion of the energy demand required for electrification could be met from in-Basin supply through load management techniques and generation of electricity by nonpolluting sources such as fuel cells and solar, the remainder of the demand would have to be met by electricity generated outside the Basin. The use of energy conservation measures, off-peak charging of batteries, and reduced vehicle miles travelled can act to reduce energy demand and help mitigate the impacts of the Basin's dependence on out-of-Basin power supplies. Electrification is used as a benchmark, not a mandated technology. The Plan does not exclude the implementation of other low-emitting technologies, if available, providing they are able to achieve emissions reductions equivalent to those of electrification. If electrification is the only technology that can be implemented, energy demands will be studied in detail during the course of technology development. Please refer to Attachment 5 for more information.

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estimate the new capacity needed, but it will be very large and it will have to come from new technologies within the basin (such as fuel cells), or from non-combustion generation outside of the basin.

The plan and EIR propose to meet a substantial portion of the energy demand through DSM, ranging from 3,640 MW to 27,300 MW, or close to 60% of the new load. This assumes technological advances such as commercial availability of superconductivity and thermal energy storage. Anything beyond the 3,640 MW in DSM savings is well beyond any current estimates of what can or should be obtained from DSM programs at SoCal Edison. This would require utility DSM programs to be expanded substantially, beginning now, at unknown costs. We believe that the EIR has unrealistic goals for DSM in Tier III under both Plan 2 and 3.

Given the unrealistic assumptions about savings from conservation and load management, it is difficult to identify exactly how much new capacity would have to be supplied from sources outside the basin. This could require importing two to eight times the energy that is purchased outside the basin currently. This might result in as many as 20-25 new 500 kv transmission lines. Besides the obvious difficulties of siting this many lines, it is unrealistic from a number of other standpoints: first, the utilities' systems would be highly unreliable if they were dependent on out-of-state sources for a major portion of their load. This could lead to substantial outages from failure of out-of-state generation sources and from transmission failures. Second, the utilities would be placed in a very weak negotiating position for purchasing power from other utilities, as they really would have no other alternative. Third, in a time when the electric industry is becoming increasingly competitive, companies such as SoCal Edison would be unreasonably constrained in their options. Finally, the cost to ratepayers would appear to be enormous.

Natural Gas Utilities: Our principal comments on the impacts on gas utilities are contained in our comments on the proposed fuel oil phase-out policy. In addition, we note that Tier I measures such as the fuel oil phase-out could result in a significant expansion of the natural gas system which serves southern California, yet the Tier III energy strategy calls for the ultimate phase-out of most use of natural gas. The time frame between the implementation of the Tier I and Tier III plans would not allow an adequate period, under existing ratemaking procedures, for the gas utility to recover the investments necessitated by the Tier I plan. Shortening the period for the recovery of these investments would significantly increase the cost to consumers.

EIRs for Rules 1134 & 1135

We have two general comments concerning both of these EIR's. First, the EIRs do not adequately consider the reasonable

4-19

Revised Table 4-6, "Potential Power Supply Matrix for the Basin", projects a lower requirement for out-of-Basin power generation than previously estimated. The revised figure estimates the need for about 1,500 to 3,000 MW during the day and 5,000 to 8,500 MW during the night. Basin utilities may currently own or operate, or in the future purchase or have interest in, power generating facilities located outside of the Basin. This may alleviate to some degree the utilities constantly being put in a weak negotiating position where all the out-of-Basin power must be purchased from third party utilities. If prices of power purchased from other utilities are not equitable, the in-Basin utility may gain an economic advantage by owning or operating out-of-Basin power plants.

4-20

The District, Public Utilities Commission, and the California Energy Commission will make a coordinated effort to determine the available energy supply, the energy demand, and the reliability and cost of such energy in relation to the impact on Basin consumers. The potential for electricity cost increases does exist under the proposed AQMP, but based on revised estimates in Attachment 5, the scope will not be as significant as outlined in the Draft AQMP EIR.

4-20a

Electrification is used as a benchmark, not a mandated technology. The Plan does not exclude the implementation of other low-emitting technologies, if available, providing they are able to achieve emissions reduction equivalent to that of electrification. Tier III clean does not intend to totally phase out natural gas, if it can meet emission levels equivalent to that of electrification. Please refer to the responses for comments 3-5 and 3-6.

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range of alternatives available. They consider only no project, more stringent standards and less stringent standards. They do not consider other alternative control measures for other emission sources which may be more cost-effective. This could mean greater reductions of ROG's vs. NOx (as SoCal Edison suggests may achieve the same reduction in ozone) or more cost-effective NOx reduction measures for other sources. Second, there is no cost-effectiveness analysis based on marginal costs and benefits, which identify the cost of the last increments of emission reduction. This is essential to any analysis of the merits of this proposal compared with other control measures.

Incorporating Air Quality Concerns into CPUC Regulation

The CPUC conducts regular reviews of utility operations and requires that a utility obtain a certificate of public convenience and necessity (CPCN) before making a major resource addition to its system. These procedures typically involve analyses of the cost effectiveness of utility operational decisions or resource additions. In the past, such analyses have not explicitly included the costs and benefits of the air quality impacts of the actions under review. In addition, the CPUC establishes the price of electric power sold to the regulated utilities by third parties who develop their own generating facilities. These prices have traditionally not reflected the different air emissions of various generation resources.

Steps are underway to incorporate explicitly into these procedures the costs and benefits of air quality impacts. For example, the CPUC's Division of Ratepayer Advocates and SoCal Edison have agreed on a methodology to value the air quality benefits of SoCal Edison's proposed major transmission line from the Palo Verde nuclear power plant in Arizona to the Devers substation near Palm Springs. This methodology has not been opposed by any other party to this CPCN case, has been accepted by the administrative law judge's draft decision [1], and will soon be before the Commission for approval. Another example is the November 13, 1988, workshop which the CPUC has scheduled to discuss the incorporation of factors such as air quality benefits into the evaluation of new third-party power projects. The CPUC believes that the District can best assist and encourage these nascent efforts by adopting an AQMP that reflects in a systematic way the cost effectiveness of various control measures. Such an approach to the AQMP will give the CPUC the confidence that the explicit incorporation of air quality impacts into its regulatory processes will be consistent with the CPUC's responsibility to ensure that the utilities provide adequate, reliable energy services at the lowest reasonable rates.

4-21

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

1 See ALJ Gottstein's Proposed Decision in A. 85-12-012, released for public comment on November 8, 1988.



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Public Utilities Commission

STATE OF CALIFORNIA

COMMISSIONER

STATEMENT OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION

Prepared for the
South Coast Air Quality Management District
Workshop on Proposed Phase-out of Fuel Oil
October 27, 1988

The California Public Utilities Commission (CPUC) appreciates the tremendous challenge which the South Coast Air Quality Management District (District) faces in devising policies which will result in the attainment of federal air quality standards within the South Coast Air Basin. We are also becoming increasingly aware that these policies will have a major impact on the future cost of energy services both within the basin and throughout southern California. The majority of both the gas and electric services in the region are provided by investor-owned utilities regulated by the CPUC. We hope that our participation in the SCAQMD's policymaking process can assist the District in charting the most cost effective path to clean air in the basin, as well as help to provide the residents of the region with an accurate assessment of the cost of this effort.[1] In turn, we recognize that CPUC policies have a major impact on stationary source fuel use decisions in the basin, and on the air emissions which those decisions produce. As a result, we invite the SCAQMD to bring its concerns to CPUC proceedings which may impact air quality within the basin.

1 Due to the limited amount of time which we have had to review the District's proposed policy, this statement has not been approved by all five CPUC commissioners. Therefore, the views expressed are not necessarily those of the full commission.

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4-22 The CPUC believes that the District's proposed policy to phase-out fuel oil use is an important example of an issue on which both the CPUC and the District can profit from an improved understanding of the other's concerns. From our perspective, the District should appreciate the significant impact which its policy may have on the cost of natural gas in southern California, an impact which the District does not appear to have considered. To understand our concerns, we think that it is important to begin by reviewing the significant restructuring of the natural gas industry which has occurred in recent years.

Over the last few years, both federal regulators and the CPUC have sought to introduce competitive forces into the gas industry. Beginning with the passage of the Natural Gas Policy Act in 1978, the federal government has gradually lifted price controls at the wellhead, permitting the development of active competition among gas producers. The Federal Energy Regulatory Commission (FERC) and the CPUC have encouraged open access to transportation capacity, at market-responsive rates, on the interstate pipeline and local distribution systems which move gas to the ultimate consumer. These developments have enhanced the ability of natural gas to compete with fuel oil in the market for large users with dual-fuel capability. Significantly, the profits earned by Southern California Gas Company, and the major interstate pipelines which supply it, now depend on the amount of gas which they move to market. Thus, these companies have a strong financial incentive to make certain that gas wins the competition at their customers' burnertips, as well as the rate flexibility to compete effectively. The improved transmission of price signals from burnertip to the wellhead also provides greater assurance that gas producers will develop new supplies in a timely fashion to meet the needs of the market, thus reducing the chance of future supply shortages. Obviously, the increased competitiveness of natural gas does not guarantee that fuel oil will not be burned in the Los Angeles basin; nonetheless, we believe that the emerging gas market has significantly reduced

Your comment is noted and will be forwarded to the District Board for consideration in making its decision in the AQMP. The District realizes that by removing solid fuel and fuel oil as backup fuels, natural gas users are left with fewer options, mainly methanol and propane. Due to methanol's current high price, these users may be left with propane as the least-cost backup fuel. The serious implications which this raises with regard to natural gas availability, pricing, and competition among suppliers are currently being addressed by the District at the workshop level. We encourage the PUC to participate fully in this process.

the likelihood in coming years of prolonged oil burns due either to gas supply shortages or to low oil prices.[2]

In the newly competitive gas market, the price of gas to end users is not set by regulatory fiat; it depends on the outcome of competition between different supplies of gas (gas-to-gas competition) and between gas and a customer's substitute fuel, such as fuel oil or propane (gas-to-oil competition). Virtually all large gas users in California have the capability to use an alternate fuel; over half of SoCal Gas' annual throughput is to customers who can switch fuels -- so-called "noncore" customers. Thus, the price of fuel oil, which is by far the most important alternate fuel, places an effective cap on the price of natural gas at the burnertip. Moreover, at a time when -- as we will explain in more detail below -- impediments still exist to effective gas-to-gas competition, the price of fuel oil also exerts a strong influence on the cost of gas supplies which the gas utilities purchase for "core" customers. These are gas consumers -- primarily residential and small commercial users -- who lack alternate fuel capability, and who thus have no alternative to gas for their energy needs. Under the CPUC's regulatory framework, the California gas utilities purchase large blocks of gas which may flow to both the core and the noncore markets. Gas suppliers must keep the price of these supplies below the cost of fuel oil, or risk losing to oil the large fuel-switchable market. As a result, core gas customers receive some of the benefit of the price pressure exerted by the dual-fuel market.

2 Over the period 1985-87, curtailments on the SoCal Gas system have averaged 10 BCF per year, including the December, 1987, to January, 1988, curtailment of about 15 BCF. In this same time frame, SoCal Gas' system throughput has averaged about 1 TCF (1,000 BCF) per year.

4-23

Your comment is noted. Please refer to page 4-18-19 of the December, 1988 EIR. Refer also to the response for comment 4-24.

4-23} Given the importance of gas-to-oil competition in restraining the price of gas to all California gas consumers, we are concerned that a mandate that higher-priced alternate fuels such as propane and methanol must be used may result in very significant, across-the-board increases in the price of natural gas in southern California. For example, the District appears to base the cost impact of the phase-out proposal on an assumption that methanol will be \$2.00 to \$3.50 per MMBtu more expensive than fuel oil and, thus, than natural gas. The District also has suggested that the phase-out should not proceed if the fuel oil/methanol price differential exceeds \$5.00 per MMBtu. However, a \$1.00 per MMBtu increase in the price of gas in southern California, spread across SoCal Gas' annual throughput of almost 1 TCF, would result in a \$1 billion annual cost increase to energy users in southern California. We believe that the District's analysis of its phase-out proposal must confront the possibility of natural gas cost increases of this magnitude.

The CPUC is hopeful that in the future gas-to-gas competition will be able to place a restraint on gas prices; this price pressure would be independent of the alternate fuel market. The strong direction of CPUC and federal policies in recent years has been to encourage the development of effective competition among natural gas suppliers. We believe that substantial progress has been made toward this goal, but we also recognize that important barriers to effective gas-to-gas competition still remain. For example, a crucial unresolved problem is the inability of many gas users to obtain access to firm interstate pipeline capacity. We caution the District that in our view it is premature to expect gas-to-gas competition alone to act as an

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effective brake on gas prices.[3]

The CPUC is studying and recently held a hearing on California's future gas supply needs, which may include new or expanded interstate pipeline capacity. We believe that the District must consider the possible costs if its fuel oil phase-out requires a greater-than-anticipated expansion of the system which brings gas to the basin. One possible response to a fuel oil phase-out is for SoCal Gas to provide firm service to its fuel-switchable customers. SoCal Gas' existing system is not designed to provide this level of service to users who have alternate fuel capability. Such a change in SoCal Gas' level of service would probably require the construction of additional interstate pipeline capacity to California, as well as reinforcements to SoCal Gas' system within the state. An increased reliance on gas-to-gas competition, due to a fuel oil phase-out, may also result in a need for additional pipeline capacity to California. Under this scenario, gas purchasers in California would need additional pipeline capacity in order to improve their ability to "shop around" a wider range of producing areas to obtain the cheapest prices. Finally, we observe that the District should not adopt policies which may encourage additional investment in the natural gas infrastructure, if over the somewhat longer term the District plans to phase out the use of natural gas.

Although our primary concern with a fuel oil phase-out is the loss of a crucial competitor with natural gas, we also

3 Our experience in California this summer provides an example of how gas prices in California are still to a large degree decoupled from prices elsewhere in the nation. The capacity bottlenecks which developed on the El Paso system, due to the restructuring of that pipeline's rates, caused spot gas prices in southern California to rise from \$1.78 per MMBtu in June to \$2.18 per MMBtu in September, an increase of a magnitude which was not observed anywhere else in the country.

4-24

Detailed discussions of the issues raised by the fuel oil phase-out policy, including the need for additional natural gas transmission lines, appear in two District documents: "Proposed Policy on the Phase-Out of Diesel, Fuel Oil and Solid Fossil Fuels" (November, 1988) and "Economic Analysis to Examine the South Coast Air Quality Management District's Proposed Fuel Oil and Diesel Phase-Out" (December, 1988). The District is currently holding public workshops for the development of this policy. General secondary impacts from proposed control measures are outlined in the responses to comments 2-9 and 2-13.

4-25

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the response for comment 3-6.

4-26

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. The interruptibility/emergency issues raised are important and must be addressed as control measures are brought forward for implementation. This is consistent with the tiering concept outlined in CEQA Guidelines, Section 15152.

4-26 think that fuel oil has an important role as a back-up fuel in
ont'd the electric generation and industrial process heat markets.
Fuel oil is widely available, and the infrastructure to store and
use it is already in place. It serves as important insurance
against gas pipeline interruptions, electric transmission lines
failures, and nuclear plant outages. From a purely technical
perspective, we recognize the demonstrated feasibility of
methanol and propane to replace fuel oil in the role of a back-up
4-27 fuel. However, the costs and environmental impacts of replacing
the existing fuel oil infrastructure need to be identified
explicitly and included in the District's considerations. This
includes the costs and impacts of systems to produce, transport,
store, and use greatly increased quantities of propane and
methanol. The costs of a fuel oil phase-out encompass much more
than simply the recent average quantity of fuel oil burned in the
basin times an assumed methanol/fuel oil price differential.

4-28 In conclusion, the CPUC's primary concern with the
District's proposed fuel oil phase-out policy is that it does not
appear to consider the impacts of such a policy on the dynamics
of the energy markets -- and particularly the natural gas market
-- which provide essential energy services to southern
California. We believe that the primary deficiency in the
District's plan is its lack of flexibility; we believe that the
schedule and the structure of any adopted phase-out should
recognize the potential need to retain a certain capability to
use fuel oil to provide competitive pressure on natural gas
prices. We hope to be able to work with the District to devise a
policy which will enable the District to reach its goals with the
least cost to California ratepayers and taxpayers. Obviously,
the extent of the need for a fuel oil option will also depend on
our success in encouraging an open and competitive market for
natural gas in southern California, so that gas-to-gas
competition can take the place of gas-to-oil competition. We are
committed to this task, and consider it to be an important
contribution which the CPUC can make to helping southern

4-27 The economic issues concerning the use of methanol and/or propane
as a backup fuel are currently being addressed in District workshops.
Please refer to page 4-18-19 of the December, 1988 EIR and to
Attachment G for additional information.

4-28 Please refer to the responses for comments 4-22 and 4-27.

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CPUC Statement at SCAQMD Workshop
October 27, 1988

California along the path to clean air. We will certainly keep
the District apprised of our progress.

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California Council for Environmental and Economic Balance

OCT 27 1988

1214 N Street Sacramento CA 95814 • (916) 443-8252

RESPONSES TO COMMENTS CALIFORNIA COUNCIL FOR ENVIRONMENTAL AND ECONOMIC BALANCE (10/25/88) COMMENT LETTER #5

October 25, 1988

Dr. James M. Lents
Executive Officer
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

Mr. Mark Pisano
Executive Director
Southern California Association of Governments
600 S. Commonwealth Avenue, Suite 1000
Los Angeles, CA 90005

Dear Dr. Lents and Mr. Pisano:

The Council appreciates the opportunity to submit comments on the Draft Air Quality Management Plan and its Draft Environmental Impact Report. The Council has long supported strong air quality management programs which are reasonable, cost-effective and equitable. CCEEB appreciates the difficulty faced by your agencies in continuing to make progress toward attainment of standards when all of the relatively easy-to-implement measures have already been adopted and only difficult choices remain.

CCEEB believes that it is precisely in these circumstances that thorough and comprehensive analysis of the impacts of proposed approaches and alternatives is most important. No matter what course of action is chosen to improve air quality in the basin, the monetary and non-monetary costs to the region and its residents will be substantial. But before Southern California embarks on a path to clean air, we need to understand what the consequences of the far-reaching plan proposals, and alternatives, may be. To assist in the public understanding of these potential consequences, the Council has retained the National Economic Research Associates to analyze and quantify the full range, magnitude and distribution of the plan's costs and benefits. Although its analysis is not yet complete, we have attached NERA's interim comments on the draft plan and EIR.

In summary, the NERA analysis concludes that the Draft EIR is seriously deficient in failing to present sufficient information to determine the consequences to

5-1

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

5-2

Please refer to the December, 1988 EIR, and Appendix 1 which included substantial additional information, and to the response for comment 2-12. Regarding alternatives, please refer to the responses to comments 2-1 and 2-4, and to Attachments 1 and 2.

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5-2 residents of the basin of the Draft AQMP, and in failing to evaluate the consequences of plausible regulatory alternatives. NERA catalogues specific shortcomings of the EIR and recommends that the following information be included in a revised EIR:

5-3 • comparable information on the costs and emission reductions for all control strategies identified;

5-4 • judgments on the practical feasibility of each strategy and analysis of any inconsistencies with other strategies;

5-5 • comparable information on the costs and emission reductions for all control strategies identified;

5-6 • judgments on the practical feasibility of each strategy and analysis of any inconsistencies with other strategies;

5-7 • information on the benefits of controlling emissions in

5-8 • information on indirect impacts of the Draft AQMP on households in the basin, including both favorable and unfavorable effects on regional employment;

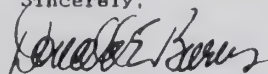
5-9 • information on the equity impacts of the Draft AQMP on lower socio-economic groups;

5-10 • information on the health impacts of reduced household income and increased employment; and

5-11 • information on the incremental benefits, costs and other impacts of alternatives to the Draft AQMP.

5-12 The Council believes that once this information is included in a revised Draft EIR, the residents of the basin and the governing boards of your respective agencies will be able to select the most optimum path to clean air, one which will provide the most air quality improvement at the least economic and social cost. On that basis, the air quality management plan will have the support of all segments of the community, which will be required if it is to be successfully implemented. The Council is committed to assisting in the formulating such a plan, and will provide you with the findings of the completed NERA analysis as soon as possible.

Sincerely,



Donald E. Burns
President

DEB:EFH:cgh

5-3 Please refer to Appendix F, December, 1988 EIR (Chapter 4-18) and to the responses for comments 2-1, 2-36, 3-45, and 7-4. Costs are available for Tier I only, and these data are contained in Appendices IV-A through IV-C. Also, refer to comments 2-5 and 2-12 regarding the level of detail for the AQMP and EIR evaluations.

5-4 Please refer to the responses for comments 2-10, 2-20, 2-30, and 2-31 which address feasibility and implementation issues. Please refer to the responses for comments 1-20 and 2-2 regarding consistency.

5-5 Please refer to the response for comment 5-3.

5-6 Please refer to the response for comment 5-4.

5-7 Please refer to the December, 1988 EIR, Appendix F, and to the responses for comments 2-36 and 5-35.

5-8 These effects have been evaluated in Appendix F of the December, 1988 EIR.

5-9 Please refer to Section 4-18 of the December, 1988 EIR, Appendix F, and to the responses for comments 5-75 and 5-83.

5-10 Please refer to the responses for comments 5-87 through 5-90. Forecasting health impacts on assumed reductions in income in a complex medical care environment is considered highly speculative.

5-11 Please refer to the response for comment 5-88.

5-12 Your comments are noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

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COMMENTS ON THE DRAFT 1988 AIR QUALITY MANAGEMENT PLAN
AND THE DRAFT ENVIRONMENTAL IMPACT REPORT ISSUED BY
THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
IN SEPTEMBER 1988

Prepared for
California Council for Environmental and Economic Balance

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555 South Flower Street
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October 27, 1988

nera

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APPENDIX A: Control Measures Contained in the Draft AQMP

I. EXECUTIVE SUMMARY

National Economic Research Associates, Inc. (NERA) is currently engaged in a study of the Draft 1988 Air Quality Management Plan (AQMP) and the Draft Environmental Impact Report (EIR), both of which were issued by the South Coast Air Quality Management District (SCAQMD) in September 1988. This study is being sponsored by the California Council for Environmental and Economic Balance (CCEEB). Although our study is not yet complete, we are in a position to provide comments. These comments are based upon our review of the documents in light of the principles that we feel should guide public policy making in this area.

In these comments, we set forth the criteria for evaluating these documents, emphasizing especially the proper information that should be provided in order to identify sensible control requirements. Without such information, it is not possible to recommend specific changes to the Draft AQMP. Nevertheless, we have come to several important conclusions regarding the Draft AQMP and the Draft EIR.

Those conclusions are:

- 5-13 • A proper EIR should present information that clarifies the implications of the Draft AQMP and those of plausible regulatory alternatives. In particular, the EIR should present the benefits,
- 5-14 costs, and other important impacts of the AQMP. It should also
- 5-15 identify the consequences of plausible alternatives, not simply mention the alternatives to satisfy a *pro forma* requirement.
- The Draft EIR does not present sufficient information to determine
- 5-16 the consequences to residents of the South Coast Air Basin (Basin) of
- the Draft AQMP. Nor does the Draft EIR evaluate plausible
- 5-17 regulatory alternatives. In particular, the Draft EIR has the
- following specific shortcomings:
- 5-18 -- the Draft EIR provides cost information on only a fraction of the
- measures contained in the Draft AQMP (the fraction of emissions

- 5-13 Your comments are noted and substantial information has been added in the December, 1988 EIR and Appendix F. Please refer to Attachment I for a comparison of different regulatory alternatives.
- 5-14 Please refer to Section 4-18 in the December, 1988 EIR and to Appendix F.
- 5-15 Your comment is noted. Please refer to the responses to comments 2-1, 2-4, and 2-21, and to Attachments I and 2.
- 5-16 Please refer to the responses for comments 2-5 and 2-14.
- 5-17 Please refer to the response for comment 5-15
- 5-18 Please refer to the responses for comments 5-3 and 2-5. Costs and emissions reductions could not be identified for all control measures at this stage. Development of detailed cost data for some measures will be undertaken and evaluated during the rule-making processes.

reductions for which there are corresponding cost data ranges from 18 percent for nitrogen oxides to 41 percent for sulfur oxides);

5-19 -- since the Draft EIR only provides cost information on a fraction of the control measures that form the Draft AQMP, the estimate of total cost given in the Draft EIR ["The price tag for the programs to improve air quality represents only about one percent of the area's total \$387-billion gross national product." (p. 4-18-1)] is meaningless;

5-20 -- some of the control measures are not likely to be implemented because they require unrealistic funding requirements;

5-21 -- the full costs of many of the transportation and land use measures listed in the Draft AQMP include not just their budgetary costs but also the indirect costs of major changes in work schedules or restrictions on land use patterns;

5-22 -- the Draft EIR improperly compares a partial estimate of costs with a benefit estimate that assumes both that all control measures are undertaken and that these control measures are sufficient to reduce air pollution damages to zero;

5-23 -- the Draft AQMP includes some control measures that run at cross-purposes to one other, a fact not reflected in the Draft EIR (for example, stringent Tier I controls on electric utilities will make electricity more expensive and blunt the Tier II and Tier III electrification strategies);

5-24 -- the estimate of air pollution damages given in the Draft EIR ("The damage caused by air pollution to health, materials, forests, and agriculture amounts to \$9.6 billion annually, or \$2.07 per capita

5-19 The 1 percent figure represents only the cost of control measures for which the cost has been identified. Cost data for other measures will be collected and evaluated, as is appropriate, during the rule-making process. Please refer to Appendix F for additional cost data and to the responses for comments 1-16, 1-19, and 2-12.

5-20 Please refer to the response for comment 2-10.

5-21 Your comment may be correct, but until specific measures are defined for implementation, any attempt to forecast costs due to mode changes and land use revisions would be unduly speculative. It is not clear that gains in time, due to less time involved in transportation, could affect other costs. This is a complex issue that cannot be quantified until the specifics of such measures are defined.

5-22 Please refer to the responses for comments 5-67 and 1-19.

5-23 Please refer to the responses for comments 5-69, 1-20, and 2-19. The contradiction noted may occur, but not to the extent originally forecasted. Please refer to Attachment 5 and to the response for comment 2-9.

5-24 Please refer to the responses for comments 5-65 and 1-19.

5-21 daily." (p. 4-18-1)) is not supported in the Draft EIR, is not explained in the citation given--which appears to be incorrect--and is not a plausible estimate of the likely benefits of control;

5-25 -- the estimate of employment impacts of the Draft AQMP ("In total, the gross regional product would rise by roughly two percent, and 84,222 new jobs would be created." (p. 4-18-1)) is not supported in the Draft EIR and completely disregards several important negative impacts of the Draft AQMP on regional employment;

5-26 -- the Draft EIR provides no analysis of plausible alternatives to the set of controls identified in the Draft AQMP;

5-27 -- the Draft EIR does not provide information on the incremental benefits and costs of increasingly stringent controls, information that is necessary to judge whether the level of control called for in the Draft AQMP is too stringent;

5-28 -- although the Draft EIR discusses the potential adverse effects of some control measures on human health--for example, the Draft EIR notes that a shift to methanol-fueled engines might increase concentrations of formaldehyde, a potential human carcinogen--the Draft EIR does not quantify these risks and does not discuss the negative health effects of reductions in per capita income due to the Draft AQMP;

5-30 -- although the Draft EIR mentions the importance of potential equity impacts on lower income groups ("Inflation induced by producers passing on compliance costs may impact low- and moderate-income families most." (p. 4-18-20)), the document provides no

5-22 Please refer to Appendix F and to the responses for comments 5-77, 5-78, and 2-36.

5-26 Please refer to the response to comment 2-21 and to Attachments 1 and 2.

5-27 The District's goal is to formulate an integrated control strategy which will ensure that ambient air quality standards for ALL criteria pollutants be met by 2010. It was determined that the Tier II level of control is necessary to just meet the federal PM10 standards. Since the inclusion of all control measures in Tier I and Tier II is required in order to achieve air quality standards, ranking the sources based on degree of reductions achieved or cost-effectiveness is not necessary.

Also, please refer to the responses to comments 5-95 and 3-45 and to Attachments 1 and 2. No other alternatives were evaluated as meeting the AQMP goal of reaching attainment by 2007. Thus, cost factors play a lesser role in determining what control strategy should be implemented.

5-28 Please refer to the responses to comments 5-89 and 2-8 and to Attachment 6.

5-29 Please refer to the response for comment 5-90. This issue cannot be characterized until the actual concentrations and specific health risks are defined. Please refer to the responses for comments 2-46, 2-79, and 2-111. The CARB is in the process of defining standards for methanol which could adequately protect public health and obviate the need for any health/economic impact analysis.

5-30 Please refer to the response to comment 5-75 and to Appendix F.

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5-30
(cont'd)

empirical evidence that would enable one to determine the significance of these distributional impacts.

5-31

-- although emission charges are listed as one of the Tier II Control Measures, the Draft EIR does not provide any analysis of the potential cost savings from using emission charges--rather than technology-based control requirements--to reduce emissions.

- We recommend that the SCAQMD revise the Draft EIR to provide a more usable document. At a minimum, the revised EIR should contain the following information:

5-32

-- comparable information on the costs and emission reductions for all control strategies identified in the Draft AQMP;

5-33

-- judgments on the practical feasibility of each strategy and analyses of any inconsistencies with other strategies;

5-34

-- information on the benefits of controlling emissions in the Basin, including information on reductions in population exposures due to the Draft AQMP and the health and other welfare implications of exposure reductions;

5-35

-- information on indirect impacts of the Draft AQMP on households in the Basin, including both favorable and unfavorable effects on regional employment;

5-36

-- information on the equity impacts of the Draft AQMP on lower socio-economic groups;

5-37

-- information on the health impacts of reduced household income and increased unemployment;

5-38

5-31

The purpose of the EIR is to evaluate potential adverse impacts to the physical environment, not provide cost/benefit evaluation of alternative control strategies. No physical impacts are apparent from this issue, therefore a pertinent response is not feasible.

5-32

Please refer to the response for comment 5-3.

5-33

Please refer to the response for comment 5-4.

5-34

Please refer to the response for comment 5-4.

5-35

The federal and state ambient air quality standards are set at levels that will protect public health from the adverse impacts of the criteria pollutants which are ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, and PM₁₀. The specific level for each criteria pollutant is established to provide a margin of safety to protect the health of sensitive individuals such as children or the elderly. Ambient air quality standards are based upon experimental laboratory studies and on public health studies.

Although the major health effects of the criteria pollutants are well established, there are a number of questions that remain such as: do short-term irritant responses observable in clinical studies reflect actual damage to respiratory tissues; if so, do these damages persist; if damage does persist, does it measurably increase the risk of eventual disability or premature death; and what environmental factor(s) increase the rate of illness or premature death associated with particular criteria pollutants.

These unanswered questions illustrate difficult policy questions facing the District: which pollutants should be controlled most stringently to protect public health and what is/are the best strategy/ies to achieve compliance with established ambient air quality standards. Any current policy decision, which is ultimately based on incomplete information, might not be the best or most efficient strategy for achieving the stated goals.

5-30
(cont'd)

empirical evidence that would enable one to determine the significance of these distributional impacts.

5-31

-- although emission charges are listed as one of the Tier II Control Measures, the Draft EIR does not provide any analysis of the potential cost savings from using emission charges--rather than technology-based control requirements--to reduce emissions.

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-- comparable information on the costs and emission reductions for all control strategies identified in the Draft AQMP;

5-33

-- judgments on the practical feasibility of each strategy and analyses of any inconsistencies with other strategies;

5-34

5-35

-- information on the benefits of controlling emissions in the Basin, including information on reductions in population exposures due to the Draft AQMP and the health and other welfare implications of exposure reductions;

5-36

-- information on indirect impacts of the Draft AQMP on households in the Basin, including both favorable and unfavorable effects on regional employment;

5-37

-- information on the equity impacts of the Draft AQMP on lower socio-economic groups;

5-38

-- information on the health impacts of reduced household income and increased unemployment;

The South Coast Air Quality Management District is the agency responsible for developing and enforcing air pollution reduction rules and regulations in the Basin. The District is proposing to reduce criteria air pollutant emissions to all federal air quality standards by the year 2007 by implementing a three-tier approach as stated in the 1988 Revision to the Air Quality Management Plan (SCAQMD and SCAG, 1988). Staff have concluded, on the basis of current (and necessarily incomplete) evidence, that the strategies outlined in the AQMP will produce the greatest benefits to public health with the least disruption. Other strategies, such as a ROG-only approach, will help reduce ozone concentrations in the Basin, but they do very little to reduce PM₁₀ concentrations. In addition, this approach may reduce the possibility of attaining and/or maintaining the NO₂ air quality standards, especially in light of substantial population growth projected for the Basin (the expected annual regional growth for the next decade is projected to be 2.1 percent).

For more information on the health benefits of controlling emissions, please refer to the ARB report, *The Benefits of Air Pollution Control in California, 1986*, and to the Interim Report (California State University Foundation), *Economic Assessment of the Health Benefits from Improvements in Air Quality, November 10, 1988*. Also, please refer to the response for comment 7-27.

5-36

Please refer to the responses to comments 5-74 to 5-76 and 2-13 and to Appendix F.

5-37

Please refer to the responses to comments 5-75 and 5-83 and to Section 4-18 of the December, 1988 EIR.

5-38

Please refer to the responses for comments 5-87 to 5-90. As noted in response to comment 5-29, it is not possible to make such forecasts at this time. The District socioeconomic forecast does not indicate that major reductions in household incomes will occur. Therefore, adverse health impacts may not be caused in this very indirect fashion.

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Please refer to the response for comments 5-31.

5-41

Please refer to the responses for comments 2-10, 2-27, 2-30, and 2-31. Also, refer to Attachments 1 and 2 which discuss the ozone issue and reevaluate ozone attainment in a comparative context.

5-42

Please refer to the responses for comments 2-10 and 2-20 and to Tables 6-1 through 6-9 in the AQMP concerning coordination with other governmental agencies. The ROG/NOx issue is thoroughly discussed in Attachment 2 of the EIR. The District's goal is to formulate an integrated control strategy which will ensure that ambient air quality standards for ALL criteria pollutants be met by 2010 and which will achieve the maximum possible reduction in excess exposure to PM10 and ozone over the next ten years.

5-43

Your comment is noted.

5-41

A threshold question is whether these control measures are feasible. Both the Draft AQMP and the Draft EIR provide several reasons to question the feasibility of the Draft AQMP, particularly with regard to achievement of the standard for ozone.

A. Implementation Authority

The Draft AQMP points out that only a fraction of the control measures will be implemented solely by the SCAQMD through its rulemaking authority. The rest will require the support and authority of other public bodies. Table I summarizes the emissions reductions attributed by the SCAQMD to control measures implemented by these various government agencies. Although the percentage of emission reductions under the direct control of the SCAQMD varies by pollutant, it seems appropriate to focus on reactive organic gases (ROG) and nitrogen oxides (NOx), since these are the pollutants responsible for ozone concentrations, the pollutant that appears to be of greatest concern in the Basin.

Only 38.0 percent of the ROG emission reductions and 20.2 percent of the NOx emission reductions would be implemented solely by the SCAQMD. The remainder of the emission reductions are dependent upon actions by other

5-43

government agencies, whose interests and responsibilities include issues other than air quality.

B Potential Difficulties in Implementation

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It is important to ask the question, how feasible are these control measures that are dependent upon other governments? The Draft AQMP points out the need for additional authority to implement some of these measures.

5-45

Nevertheless, it does not provide an indication of the likelihood that the control measures would actually be adopted.

5-46

Table 2 provides one example of the potential difficulties with some of the measures. The Los Angeles County Transportation Commission (LACTC) has provided information on the funding requirements for each of these measures, and the shortfall in funding under existing statutory authority. For example, the LACTC estimates that the control measures to alter the mode of commuting will require 125,000 vans and 3,000 buses, and that the annual shortfall in revenues will be almost \$5 billion in capital costs and \$500 million in operating costs. The rail and highway construction projects will require even greater funding. The LACTC estimates that constructing 271 miles of rail transit, 511 miles of high occupancy vehicle (HOV) lanes and 250 miles of mixed flow lanes will together generate a revenue shortfall of more than \$23 billion in capital costs. In addition, constructing such an enormous transportation infrastructure on the timetable set out in the Draft AQMP will require waiver of much of the environmental review and permit procedures.

5-47

The revenue shortfalls anticipated by the LACTC for these control measures suggest that the massive changes called for in the Draft AQMP are not likely to be implemented, absent significant new revenue sources.

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Please refer to the responses for comments 5-41 and 5-42.

5-45

Please refer to the responses for comments 2-10 and 2-20.

5-46

Funding sources have not been identified for all of the transportation facility capital improvements in the AQMP and the RMP. However, current lack of funding does not reduce the importance of adapting these measures as part of a planning strategy. These measures increase mobility and reduce congestion and air pollution, and all effort will have to be made to implement them.

5-47

Refer to the response for comment 5-46. It is clear that additional funding sources will have to be developed when these measures are considered for implementation. Please refer to the response for comment 7-3 which describes the factors considered when a measure is brought forward for implementation.

Many of the policies required for other public bodies are equally far-reaching. For example, the Draft AQMP calls for local and state governments to mandate alternative work weeks and flextime, to manage growth to reduce auto travel, to restrict the use of automobile travel, and to encourage employers to develop rideshare programs and incentives to take public transit or organize vanpools. The Draft AQMP points out the obstacles to such drastic changes in commuting and work patterns. But nowhere does either the Draft AQMP or the Draft EIR assess the probabilities that such changes will be made. What is needed is an estimate of the likely changes, not just goals with little justification other than a mathematical requirement to show compliance.

C. Technological Feasibility

In addition to the difficulty of obtaining institutional agreement to fund enormous expenses and change lifestyles, the Draft AQMP contains many control measures that may be simply technologically infeasible. Consider the way in which the Draft AQMP and Draft EIR characterize Tier II and Tier III controls:

In contrast to the specific measures and implementation schedule laid out in Tier I, Tiers II and III are more akin to a long-term work plan. The measures included in these tiers identify actions which must be taken to ensure that the needed technological advances will occur. (Draft AQMP, p. 6-1)

Tier III programs are thus primarily designed to bring about technological breakthroughs to further reduce ROG emissions. . . Unlike Tier II, which focuses on further strengthening known emission controls, Tier III calls for efforts to develop new technology to reduce remaining emissions. (Draft AQMP, p. 4-30)

Indeed, rather than describe specific controls, the Draft AQMP only lists three general areas that would be controlled under Tier III (elimination of reactive solvents, full electrification of passenger cars, and use of clean fuel (e.g., methanol) in all other vehicles). Even the characterization of the projected emission

5-48 Your comment is noted. The feasibility of implementing the various components of the AQMP will be assessed as each control measure is considered for rule adoption. Please refer to the responses for comments 5-41 and 5-42.

5-49 The District does not concur that the EIR must serve the function of addressing probability of implementation. Please refer to the responses for comments 2-20, 2-27, 2-30, and 2-31. The EIR evaluates potential adverse impacts and the adverse impact from not implementing a specific control measure is that emissions are not reduced. As noted in the above responses, contingency measures are available to replace measures that do not provide the forecasted emissions reductions.

5-50 Tier II and Tier III measures represent goals that appear reasonable to the District. Inclusion of these measures is essential if ambient air quality is to be attained in the Basin. CEQA specifically provides for such programs and allows general or qualitative evaluations of impacts at the planning stage with later more detailed and focused evaluations. This has been done in the December, 1988 EIR, its Appendices, and these responses to comments. See also the response for comment 2-5.

5-51 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Again, this approach is consistent with long-range planning.

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cont

reductions indicates the questionable feasibility of these strategies. For example, consider the estimate for reactive solvents:

The Tier III emission reduction potential realized from eliminating reactive solvents (ROG) in coating and solvent use and consumer products can approach 100 tons/day. (Draft AQMP, p. 4-33, emphasis added)

5-52

These potentially speculative Tier II and Tier III controls do not represent a trivial percentage of the total ROG emissions listed for the Draft AQMP. Together the Tier II and III controls account for 44 percent of the total ROG reductions. Indeed, the Tier III controls account for 18 percent of the total.

D. Summary

5-53

Lack of authority, funding obstacles, and speculative technology--all are important impediments to the feasibility of the control measures identified in the Draft AQMP. A proper EIR would not just identify these impediments, but rather would also provide an indication of the likelihood that they could be overcome. It does little good to include stringent control measures in the Draft AQMP--and thereby show "theoretical" attainment of the federal air quality standards--if sound judgment indicates that the measures are not feasible.

5-54

III. COSTS AND BENEFITS OF THE DRAFT AQMP

To provide a sensible basis for evaluating the Draft AQMP, it is essential that the SCAQMD provide estimates of its likely costs and benefits. This is not a counsel of perfection; assessing the costs and benefits of a complex program of individual regulatory requirements is difficult and inherently uncertain. Nonetheless, the Draft EIR should provide a basis for determining that the benefits and costs are comparable, that the costs have been properly identified, and that the benefits are described and quantified to the extent possible. The Draft EIR is deficient on all of these accounts.

5-52

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

5-53

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the response for comment 5-41.

5-54

Just as the estimate of the AQMP's cost did not reflect all costs, the estimate of the AQMP's dollar benefit did not consider all of the pollution damage reductions. The benefit estimate included only reduction in air pollution damages to health, materials, forests, and agriculture. The damages were based on noncompliance with federal standards for two pollutants only, ozone and particulates. Indirect health costs, such as pain and discomfort, were not considered in calculating the benefit estimate. These could amount to 20 percent to 50 percent of the total health damage. Agricultural damages included damages only to dry beans, cotton, potatoes, and grapes. Data has been provided to the extent possible and is outlined in the December, 1988 EIR, Appendix F, and in Appendices IV-A thru IV-C.

A Comparison of Costs and Benefits

The Draft AQMP provides the following summary of the costs and benefits of the Tier I control measures:

The total estimated control cost for Tier I measures with cost data is about \$8 million per day (1987 dollars). This represents an average cost of about \$.65 per day to the Basin residents once controls are in place. Improved technology may be able to reduce these costs. On the other hand, the Basin's air pollution damage costs to health, materials, forest, and agriculture amounted to about \$26 million daily or \$2 daily per capita in 1987. These costs reflected the damage as a result of nonattainment of ozone and particulate standards. Therefore, the air quality benefits would significantly outweigh the estimated pollution control cost of implementing these control measures. (Draft AQMP, p. 4-2)

In addition, the Draft EIR provides the following summaries of the costs and benefits of the AQMP.

Although it is difficult to place an explicit dollar value on clean air, people in the Basin value many things made possible by clean air, including improved public health from reduced respiratory disease, less damage to buildings, healthier foliage, improved crop yield, and better visibility. The damage caused by air pollution to health, materials, forests, and agriculture amounts to \$9.6 billion annually, or \$2.07 per capita daily (Draft EIR, p. 4-18-1)

The price tag for the programs to improve air quality represents only about one percent of the area's total \$387-billion gross national product. (Draft EIR, p. 4-18-1)

The Draft EIR thus implies that the benefits of the Draft AQMP are \$9.6 billion and the costs are \$3.9 billion. According to this calculation, the Draft AQMP would generate enormous net benefits to residents of the Basin.

It is critical in any program evaluation to report comparable estimates of benefits and costs. This requirement is particularly important for a complex plan such as the Draft AQMP, which includes 160 individual control measures. Reporting costs for a fraction of these individual measures--while at the same time reporting

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Your comment is noted. Please refer to the response to comment 5-54 and to the December, 1988 EIR, Section 4-18 for a discussion of benefits.

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5-55
cont

emissions reductions for the entire group--biases the comparison to make the Draft AQMP look more favorable.

5-56

The Draft EIR provides precisely this bias. Table 3 summarizes the costs and emissions reduction estimates for the 160 individual control measures identified in the Draft AQMP. (Estimates for all of the control measures are given in Appendix A, Table A-1.) Only 58 of the control measures--all of which are in Tier I--have both costs and emissions reductions estimates. The fraction of emissions reductions accounted for by these 58 measures ranges from 18.2 percent for NOx emissions to 41.2 percent for SOx. For more than half of the measures--85 out of the 160--the Draft EIR lists emission reductions but no cost information. Thus, the estimate of the total cost given in the Draft EIR of \$3.9 billion is not comparable to the implied benefit estimate of \$9.6 billion.

5-57

The partial information on costs and emissions reductions can be used to generate a very crude indication of what the total costs might be from implementing the full set of controls identified in the Draft AQMP (with the exception of the 17 controls for which no emissions reductions are estimated). If we assume that the average cost-effectiveness is the same for the 85 controls without cost data as it is for the 58 measures with cost data--which will no doubt understate the costs since the Tier II and Tier III rules are acknowledged to be more speculative and to require more costly and less proven technology--we can calculate the total cost of the Draft AQMP. The emissions reductions for the 58 measures on average represent 31 percent of the total reported emissions reductions. If they also account for 31 percent of the total cost, then total annual cost would equal \$12.4 billion.

5-58

Thus, even under this rather conservative assumption, the costs of the control program would be greater than the reported damages from air pollution in

5-56

Your comment is noted. Please refer to the responses for comments 5-54 and 5-18.

5-57

Your comment is noted. The District does not concur that cost estimation for one group of emission control measures using cost data from an entirely different group of control measures is appropriate. It is too speculative. Cost estimates based on actual control measure expenses will be provided during rule development. District conclusions on costs and benefits have been qualified, where necessary, to indicate that the costs of implementing the Plan will be greater than can be quantified at this time. The costs of control measures will be more carefully examined during the rule-making process. The District's economic impact for Tier I stationary sources, the Growth Management Plan, and the Regional Mobility Plan are provided in Appendix F, Tables 1,2 and 3, respectively.

5-58

The discounted cash flow method is used to evaluate the cost effectiveness of each control measure. See Appendix IV-D and Appendix F for detailed information. Control costs by the two-digit SIC industries were derived by distributing the cost of each control measure among directly-impacted two-digit SIC code industries by their 1985 emissions.

Non-resource costs consist primarily of transfers among various individuals and groups. Although these have equity implications, they are not costs to the economy as a whole. The economic data available is considered adequate to support a decision on the AQMP.

5-58 the Basin. However, as discussed below, this comparison is made virtually
5-59 meaningless because of inadequacies in the reporting of both the cost and benefit
estimates: the Draft EIR understates the resource costs and excludes non-resource
costs from its estimates; and the damage estimate reported in the Draft EIR is not
supported, so it is impossible to evaluate its accuracy.

B. Estimation of Costs

5-60 Many of the cost estimates given in the Draft EIR are based upon
detailed estimates of control costs prepared for individual rulemakings. For
example, the estimate of costs for controls on electric utility boilers includes costs
associated with Proposed Rule 1135. The estimates reported in the Draft EIR may
understate the resource costs because they are apparently based upon conservative
estimates of the costs. In particular, where the Draft EIR for a proposed rule
provides a low and high estimate, the Draft EIR uses the low estimate.

5-61 Table 4 suggests the potential influence of this conservative cost
reporting approach. Included in Table 4 are the low and high cost estimates
reported by the SCAQMD in the two proposed rules for which such estimates were
presented. The ratios of high to low estimates are 1.6 and 1.7 for the two rules.
Thus, control costs for these rulemakings may be 60 or 70 percent greater than the
SCAQMD reports. Of course, since these cost ranges were only presented for two
of the control measures, it may be misleading to extrapolate this range to the
entire set of controls. Nevertheless, if this range were representative, the control
costs might range from \$12.4 billion to \$21.1 billion per year.

5-62 The Draft EIR may also understate the full costs of the Draft AQMP
because it excludes some costs that cannot easily be expressed in dollars. This
issue is related to the feasibility of control options; even if the measures are
feasible, they may generate large non-dollar costs that should be accounted for in a

5-59 Please refer to the responses for comments 5-35 and 5-65 concerning
the support documents for the air pollution damage estimates.

5-60 The low estimates referred to in your comment reflect District
analysis and conclusions, while the high estimates reflect industry
analysis. The District used its own numbers in the EIR because they
reflected the consistent methodology outlined in the response for
comment 5-58.

5-61 Your comment is noted, but the base figure reflects the \$12.4 billion
inflated value developed in your comment 5-57. Using the District's
\$3.6 billion value, the potential costs would be about \$6.1 billion.
Inclusion of all available cost estimates for control measures, rather
than cost data for only two control measures, is needed to determine
the aggregate differential. Moreover, the \$12.4 billion cost figure may
be inappropriate as noted above. Please refer to the response for
comment 5-57.

5-62 Your comment is noted and will be forwarded to the District Board
for consideration in making its decision on the AQMP. These costs
are difficult to quantify without making arbitrary assumptions.
Individuals value their leisure time differently and are often balanced
by reduced costs in other areas. For example, mass transit users may
charge all or some of the costs of owning and using an automobile.
These measures will also confer benefits upon the community through
air quality improvements and reduced congestion delays.

It is doubtful that the "inconvenience" mentioned in your comment
will not be voluntarily incurred by individuals making choices in their
own self interest. Such choices may be made more attractive by
employer or government incentives. For example, Senate Bill 1904
provides tax exemptions to the benefits that commuters who rideshare
would receive, in order to provide an incentive to rideshare. This bill
has been signed into law by the Governor.

5-62
(cont'd)

complete analysis of costs. These non-dollar costs include added commuting time and inconvenience for those who are forced to forego auto travel, reduced quality of life for those forced to work different hours, and reduced opportunities for those forced to live in less desirable urban environments following the imposition of land use controls.

5-63

Table 5 lists some of the control measures that are likely to generate non-resource costs. Only one of the measures has an estimate of costs, approximately \$500,000 per year. But the full cost of the measures listed in Table 5 is far greater than that figure. For example, requiring alternative work weeks or flextime schedules is likely to decrease labor productivity and increase labor costs. Restrictions on automobile use will increase commuting time and decrease the comfort and convenience of commuting. Modifying land use and transportation patterns as part of growth management strategies will decrease residential amenities and increase the costs of business.

5-64

Although the Draft EIR lists these various impacts of the Draft AQMP, it provides no information on their importance. Are the non-dollar costs called for in the Draft AQMP minor inconveniences that residents of other areas in other situations have had to deal with? Or are these impacts major dislocations without parallel? Without such an analysis, it is difficult to assess the full costs of the Draft AQMP.

C. Estimation of Benefits

The principal objective of the Draft AQMP is of course to improve air quality in the Basin and thereby improve the quality of life for its basin residents. A key objective of an EIR is to document these improvements in environmental conditions as well as any offsetting changes in environmental quality.

5-63

Some of the conclusions in your comment may not be accurate. For example, land use and transportation system modification may increase residential communities and reduce the costs of doing business by reducing infrastructure costs (relative to future costs associated with development under present land use management plans) and allowing better access and design using infill development. Refer also to the response for comment 5-62. Although residential amenities may decrease as part of growth management strategies, the environmental amenity of air quality will clearly increase. The key point is that until specific strategies were reviewed and implemented at the local level any discussion of such impacts is at best speculative and does not assist decision makers in making more informed and better decisions.

5-64

As noted in the response for comment 5-63, it is too difficult at this stage of review to draw firm conclusions regarding the degree of significance for the adverse environmental impacts discussed in your comment. The potential for significant adverse impact does exist in some instances and is noted, in the December, 1988 AQMP EIR and in the Growth Management Regional Mobility Plan environmental documents.

5-65 Unfortunately, the Draft EIR fails to provide a clear documentation of the benefits Basin residents will receive from the Draft AQMP. As discussed above, the Draft EIR states that, "(t)he damage caused by air pollution to health, materials, forests, and agriculture amounts to \$9.6 billion annually, or \$2.07 per capita daily (SCAQMD, 1988)." (p. 4-18-1) However, we have not been able to obtain documentation for this calculation. (The reference appears to be an error, and no other document in the list of references provides such an estimate.)

5-66 The California Air Resources Board has sponsored a report that estimates the damages from air pollution in the Basin. Table 6 presents summary information from that report. Although we have not yet studied the methodology in that report--and thus have not determined whether it accurately estimates the dollar value of air quality damages--the "best" estimate of damages is \$4.8 billion in 1983 dollars, or \$5.5 billion in 1987 dollars. Moreover, 70 percent of the damages are related to health, virtually all of which is premature death. Since ozone is not associated with mortality effects, it seems unlikely that the ozone improvements that are the focus of the Draft AQMP account for a substantial fraction of the estimated damages. Thus, even if the estimates in Table 6 are accepted, the estimate of \$9.6 billion per year in damages seems an implausible estimate of the benefits of the Draft AQMP.

5-67 Moreover, using an estimate of air pollution damages as the basis for estimating the benefits of the AQMP requires three additional propositions: (1) all control measures will be implemented; (2) the emissions reduction due to the Draft AQMP is equal to the sum of all the measures, and thus that the measures do not interact with one another; and (3) the Draft AQMP reduces air pollution damages to zero in the Basin. None of these three propositions is supported in the Draft EIR.

5-65

The \$11 billion in health costs have been revised to include the costs of mortality, emergency room visits, emergency hospital admissions, sick days, motor-restricted activity days, asthma symptom aggravation days, and respiratory-restricted activity days resulting from noncompliance with the federal air quality standards for ozone and particulates. The air quality benefit was derived by comparing the 1987 air quality data in the Basin to the federal standards for ozone and particulates.

Equations used in calculating air quality benefits are from pages 5-69 to 5-71, 6-14, 8-29, and 7-50 of the ARB report, *The Benefits of Air Pollution Control in California, 1986*. Other data sources include the Agricultural Crop Report, the District Air Quality Data Base, the California Statistical Abstract, and the Economic Report of the President.

5-66

The AQMP is a plan for achieving compliance with the federal clean air standards for all criteria pollutants, not ozone alone. The Plan has been crafted as an integrated effort to address the PM10 and other criteria air pollutant problems. Additional data on the health impacts of air pollution are contained in "Economic Assessment of the Health Benefits from Improvements in Air quality" (Interim Report), November 10, 1988, California State University Fullerton Foundation.

5-67

The benefit estimates were calculated independently of all these three assumptions. They were computed by comparing the 1987 air quality data in the Basin with the federal standards for ozone and particulates. Scenarios outlined in *The Benefits of Air Pollution Control in California* did not reflect the current situation. Estimates taken from these scenarios must be explained cautiously, as done in the EIR.

5-68 With regard to the first and third propositions, relatively little more needs to be said. As discussed above, many of the control measures do not appear to be feasible--because they require either implausible public actions or technological breakthroughs--and thus the benefits of the Draft AQMP will be reduced accordingly. Moreover, given its geography and meteorology, the Basin is likely to have some days of poor visibility or other air pollution damages even if the entire Draft AQMP were adopted. Indeed, the ambient standard for ozone may be exceeded due to natural sources--such as trees--even if all man-made sources were eliminated.

5-69 The second proposition concerns relationships among the control measures. Several of the control measures work at cross purposes with one another. As a result, the sum of the emissions reductions will be smaller than reported in the Draft EIR. Perhaps the clearest--and most important--example relates to electrification. The Draft AQMP anticipates a large increase in electricity use as a means of reducing both stationary source and mobile source emissions. However, 5-70 one of the major control measures in Tier I--Proposed Rule 1135 to reduce NOx emissions from electric utility boilers--will have the effect of increasing the price of electricity and thereby blunting this electrification initiative.

5-71 To provide an indication of the potential importance of the indirect increases in emissions due to electricity price increases, Table 7 lists the control measures that are dependent upon greater use of electricity. Together these regulations account for more than 15.9 percent of the ROG emissions reductions for the entire Draft AQMP. Increases in electricity prices will both make it more expensive to achieve these emissions reductions and--to the extent that higher prices lead to a smaller shift to electrification--will decrease the emissions reductions listed in Table 7.

5-68

Feasibility has been previously addressed in response to comments 5-40 and 5-41 and their references. Your comment regarding continued air pollution damages after fully implementing the AQMP is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Estimated air pollution impacts may continue to occur but will be minimal, assuming public health is protected.

5-69

Your comment is valid in noting that some control measures run at cross-purposes to one another and may make it more difficult to implement other measures. Such difficulties are the product of the complexity of reducing emissions to a sufficient level to meet air quality standards in this Basin. However, even with these difficulties, the emissions can be reduced with a sufficient amount of funding and resources. Development of detailed resources required for individual control measures will be undertaken at the time of rule development. Please refer to the responses for comments 1-20 and 2-22.

5-70

Please refer to responses to comment 5-23.

5-71

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. The interplay between energy costs and emissions reductions is a valid concern that has been taken into consideration in the planning effort. The specific costs and the impacts of electrification measures can be monitored and modified as individual measures are considered for implementation.

There is also an interaction between control measures designed to reduce automotive vehicle miles of travel (VMT) and control measures whose emissions reductions are dependent upon the number of VMT. For example, the Draft AQMP predicts that reducing ROG standards for light duty vehicles will lead to a reduction of 72.1 tons per day in ROG emissions, based upon projected VMT (See Table 8). But that estimate does not appear to take into account the influence of control measures designed to reduce VMT. If overall VMT are reduced, the emissions benefits of tailpipe controls will be correspondingly reduced. To provide some indication of the potential interaction, Table 8 lists both the measures designed to reduce VMT and the measures whose emissions reductions benefits would be lower when VMT is reduced.

D. Summary

The Draft EIR presents incomplete and misleading information on the costs and benefits of the Draft AQMP. Both the Draft AQMP and the Draft EIR improperly compare a partial estimate of costs with a benefit estimate that assumes that all controls are undertaken and that air pollution damage will be reduced to zero. A very simple extrapolation of the cost estimate presented in the Draft EIR indicates that the full costs of the Draft AQMP would be \$12.4 billion each year, rather than the \$3.9 billion figure given in the Draft EIR. Moreover, this estimate ignores potentially large costs of disruption and inconvenience. The Draft EIR should be revised to provide more reliable and comparable estimates of costs and benefits

IV. INDIRECT IMPACTS OF THE DRAFT AQMP

A complex and far-reaching policy such as that contained in the Draft AQMP will have impacts far beyond those traditionally measured as costs or benefits. These indirect impacts are less often evaluated, but they can nonetheless

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This is not the case. In each control measure, the emissions reduction is estimated without taking into account the contributions of other measures. When estimating the overall emissions reductions that result from all control measures, the overlaps and interactions between the measures are taken into account. Therefore, in the AQMP, the emissions reductions from tailpipe and VMT control measures are listed individually. The emissions reductions that result from the interaction between the two sets of measures are then taken into account for an estimate in the total reduction of emissions.

5-73

Please refer to the responses for comments 5-54 through 5-72.

5-74

Your comment is noted. Employment impacts of the AQMP are addressed in Appendix F of the December, 1988 EIR. Potential for indirect impact does exist but must be evaluated at the control measure implementation stage.

5-74

be very important. For example, the Draft AQMP will undoubtedly affect the level and composition of employment within the Basin. Although from a national perspective, any employment losses or gains may well be transfers--since decreases in the Basin are likely to be accompanied by increases in the rest of the country--these impacts would constitute indirect impacts from the standpoint of those in the Basin.

5-75

Similarly, the distribution of the costs and benefits of the Draft AQMP is of concern. Costs--in the form of higher utility bills, product prices, or unemployment impacts--that fall disproportionately on the poor tend to be viewed with some suspicion.

5-76

The Draft EIR of course discusses these indirect impacts, and, indeed, it can be viewed as a catalog of direct and indirect effects. Nevertheless, the Draft EIR does not provide sufficient quantitative information on many of these impacts to assess their significance. In these comments, we discuss information we believe should be provided on three important indirect effects: (1) employment impacts; (2) distributional impacts; and (3) health impacts.

A. Employment Impacts

The Draft EIR reports the following evaluation of the employment impacts of the Draft AQMP:

The spending of pollution control equipment and other measures to reduce emissions will be an economic stimulus to the Basin's economy. Not only will suppliers of control equipment and services benefit directly, but the industries which provide inputs to them will expand as well. In total, the gross regional product would rise by roughly two percent, and 84,222 new jobs would be created. (p. 4-18-1)

5-77

This evaluation of the employment impacts of the Draft AQMP is seriously deficient for two main reasons. First, the Draft EIR provides no background for its estimate

5-75

Pages 4-18-42 through 4-18-44 of the Final EIR discuss the impact of the AQMP upon lower income groups. Detailed distribution of these impacts will be assessed in the rule-making process. At that time if measures appear to disproportionately impact certain segments of the population, specific mitigation measure can be included as part of rule adoption.

5-76

These impacts are discussed in the December, 1988 EIR to the extent that they induce environmental consequences. According to CEQA requirements, direct and indirect economic impacts should be assessed to the extent that these impacts induce environmental consequences. Please refer to the responses for comments 2-5, 2-12, and 2-13.

5-77

For revised employment impacts, please see Appendix F of the December, 1988 EIR.

5-77

of the positive impact of control expenditures on employment. Second, it ignores several important negative effects of the Draft AQMP on regional employment.

With regard to the first failing, we recommend that the SCAQMD provide the details of how the estimate was prepared so that we can evaluate the calculations. With regard to the second issue, we have laid out in Table 9 the five categories of potential employment impacts that ought to be evaluated in the Draft EIR.

5-78

Category 1 consists of the negative effect of increases in control costs on firms' decisions to locate in the South Coast region. Firms that cannot pass the added control costs on to their customers are likely to be most affected. Faced with these higher costs, a Basin firm may relocate or reduce its operations, leading to reductions in local employment. Since many industries affected by controls are "basic" industries--key industries whose location dictates regional growth--any reductions in employment tend to have a snowballing effect on other firms. These impacts are well-known indirect effects of pollution control costs, and models and data are available that allow one to estimate the size of the effects.

5-79

Category 2 consists of the negative employment effects that occur when decreases in personal income due to product price increases reduce spending in the region. This effect is the flip side of Category 3, the positive effect of control expenditures that is evaluated in the Draft EIR. Both effects relate to the employment impacts of the resource costs used to pay for pollution control. Whether the negative effect of lost regional income outweighs the positive effect of increased control expenditures is an empirical proposition. The net effect will depend upon the fraction of control equipment manufactured in the region, the mix of control costs between capital and operating expenses, and the propensity of Basin residents to purchase goods and services within the region.

i-78

The control cost of regulation is only one of the factors that determines a firm's location. The assumption that many industries affected by controls are basic industries is not supported by empirical evidence. Please refer to the responses to comment 5-77 and its references for this data.

i-79

Again, data in Tables 1, 2, and 3 of Appendix F directly address this comment.

5-80

The final two categories relate to "non-economic" influences of the Draft AQMP on regional employment. Category 4 consists of the potential that anti-growth measures in the Draft AQMP--such as controls on industrial locational decisions or bans on auto travel--will discourage firms from locating in the Basin. Category 5 consists of the potential positive effect of air quality improvements on employment. For example, better air quality may encourage more employers to locate or expand in the region.

5-81

5-82

A complete EIR must contain an assessment of all of these potential impacts on employment. The Draft EIR is deficient, both in not explaining the reasoning and data behind its employment estimate and in ignoring other important influences of the Draft AQMP on regional employment.

B. Distributional Impacts

5-83

The costs of the Draft AQMP will certainly be large. Although some commentators imply that businesses or utilities pay these costs, all costs are ultimately borne by individual households. Thus, for example, higher electricity prices will ultimately be borne by electricity customers and other households. Residential rate increases will be borne directly as higher electricity bills. Determining the ultimate burden of cost increases to business and government establishments is more complicated; some of the added electricity costs will be passed on in form of higher prices for goods and services, while a portion of the costs will be absorbed in the form of lower corporate profits. Even the corporate profit portion is complicated, because a part of the reduced corporate profits will be borne by taxpayers due to the 34 percent federal tax on corporate profits.

The Draft AQMP mentions the importance of these equity effects in the following policy question:

5-80

Your comment is noted and this potential impact is recognized in the December, 1988 EIR and Appendix F.

5-81

Your comment is noted.

5-82

Please refer to the responses for comments 5-75 and 5-78.

5-83

Your comments are noted. The comments contradict each other. One says that "all costs are ultimately borne by individual households." The other states that "a portion of the costs will be absorbed in the form of lower corporate profits." The former represents an extreme case and the latter approximates the reality.

How should the AQMP address issues of equity-between source categories, between sub-regions, among various socio-economic levels? (Draft AQMP, p. 7-7)

5-84 What is needed is some empirical indication of the importance of these equity impacts.

5-85 Previous studies of emission control expenditures indicate that these costs are borne more than proportionately by lower income households. That is, lower income households in the Basin will probably have to pay a larger share of their income to cover the cost of emissions control than will their higher income counterparts. In economic terms, the pattern of costs is regressive--more like a sales tax than an income tax, which is graduated so that higher income households pay a larger fraction of their income in taxes.

5-86 The Draft EIR should provide quantitative information on the equity impacts of the Draft AQMP. Will lower income groups pay a disproportionate share of the costs? Will they receive a correspondingly larger share of the air quality benefits? What about employment impacts? All of these questions should be addressed in the Draft EIR.

C. Health Impacts

The major purpose of the Draft AQMP is described to be the following:

The purpose of the 1988 Revision of the AQMP is to set forth a comprehensive control program that will lead the South Coast Air Basin into compliance with all federal and state air quality standards. (Draft AQMP, p. ii)

5-87 The air quality standards that create this rationale for the Draft AQMP are designed to improve public health. However, as discussed in our analysis of the benefits expected under the Draft AQMP, the Draft EIR does not provide information on the health benefits that Basin residents will experience. Nor does
5-88 the Draft EIR give information on the incremental health benefits of the major alternatives it identifies.

5-84 Please refer to the response for comments 2-5 and 2-12. Quantitative data are presented in Appendix F and quantitative conclusions regarding equity issues are addressed in the December, 1988 EIR and these responses to comments.

5-85 Please refer to the response for comment 5-75. Mitigation at the time of implementation can address the regressive nature (if any) of specific control measures.

5-86 Please refer to the response for comment 5-74. Detailed distributional impacts of each control measure will be further discussed in the rule-making process and can be mitigated, if in a variety of ways, including subsidies, sliding rates (such as lifeline rates) and other measures.

5-87 The standards are set to protect public health with a margin of safety included. It is difficult to derive specific quantitative analyses of health effects (i.e., angina attacks per ppb of CO in excess of the standard; or increased lung disease per $\mu\text{g}/\text{m}^3$ PM_{10} in excess of the standard). The EPA, which derives these standards we are attempting to meet, does not provide quantitative dose/response relationships for most health effects which may result from ambient exposure to air pollutants in excess of the standards. Please refer to the response for comment 7-27. By reducing ambient air concentrations below standards, the present health impacts identified in that comment for each pollutant exceeding the standard (ozone, NO_x , CO and PM_{10}) is avoided.

5-88 Without a quantitative dose/response function for each pollutant and potential health effect (see the above comment), it is not possible at this time to provide a quantitative estimate of the incremental benefit of one alternative over another. The goal is to meet these health protective standards; in most instances the protective standards can be met through standard engineering measures. However, the scope of health impacts will be fully evaluated as control measures are considered for implementation. As outlined in response to comment 7-3, prior to rule-making the Board will be presented with any potential unmitigated risks and will make a decision regarding the balance of all risks to the public.

5-89

These direct health benefits are, however, only part of the influence that the Draft AQMP will have on the health of Basin residents. The Draft EIR identifies a large number of adverse health impacts of the Draft AQMP. Table 10 lists those health impacts. Many of the adverse impacts appear to involve serious health risks. A list is not sufficient, however, to determine the significance of the risks, and the extent to which the adverse health risks offset the health benefits of improved air quality.

5-90

There is another health impact of the Draft AQMP that is not mentioned in the Draft EIR, but which may be significant. Reductions in household income that come about when Basin residents pay the cost of pollution control will lead to reduced expenditures for other goods and services. That is, after all, what costs represent--losses in opportunities to purchase other goods and services. One of the categories will be health care, such as check-ups or preventive care. Such reduced expenditures will--at the margin--result in greater premature deaths and other health effects. Indeed, researchers have estimated relationships between per capita income and premature death that quantify this linkage. These results can be used to estimate the number of premature deaths associated with reductions in discretionary income.

The Draft EIR should provide quantitative evidence on these various health impacts. Basin residents should know what health benefits they will be receiving from improvements in air quality, and what health risks they will bear as a result of the control measures contained in the Draft AQMP and the lower income available for health care.

D. Summary

The Draft AQMP will have impacts on the Basin that range far beyond the simple costs and air quality benefits of the control measures. It is imperative

5-89

The issue of the significance of risks posed by implementing AQMP or the extent to which the adverse health risks offset the health benefits of improved air quality can not be addressed without a quantitative balancing of health risks (of each proposed control strategy) versus health benefits (of meeting air quality standards). Potential health impacts of several AQMP measures are addressed throughout the EIR and quantified to the extent feasible with the available information. Please refer to the response for comment 5-88.

5-90

The cost impact of AQMP measures does not impact household incomes directly. Rather, the prices of goods and services produced in the Basin would increase due to specific control measures. These price increases would raise the cost of living in the Basin. However, the extent to which this cost of living increase would diminish disposable income is speculative. To the extent that wage demands successfully reflect the Basin's cost of living, the impact on disposable income will be offset. If cost of living allowance adjustments for other income recipients in the Basin are tied to a Basin-specific cost of living index, disposable income would be unchanged. The extent to which whatever remaining uncompensated reduction in disposable income would reduced spending on health services is speculative. The district is not aware of evidence linking reduction in income with premature death, nor was any such evidence provided by the commentor. Please refer to the response for comment 5-29 for additional information.

that the Draft EIR describe these impacts and quantify them to the extent possible. We have focused on three areas in which additional information needs to be provided: (1) employment impacts; (2) distributional impacts; and (3) health impacts.

V. ALTERNATIVES TO THE DRAFT AQMP

A significant purpose of a Draft EIR is to present information on alternatives. Particularly in such a far-reaching and complex undertaking, it is important to describe the implications of accepting some elements and rejecting others, or of adopting alternative means of achieving the same objectives.

In this section, we consider the alternatives listed in the Draft EIR and Draft AQMP and indicate the type of empirical analysis that would permit commentators to evaluate those alternatives.

A. Alternatives in the Draft AQMP and Draft EIR

The Draft EIR lists the following alternatives:

-- No Project

Do not adopt the 1988 Revision to the AQMP.

-- Partial Implementation

Implement only Tiers I and II.

-- Additional Emissions Reduction Effort

Implement controls beyond those in AQMP.

-- Delayed Compliance Alternative

Implement measures over a longer time frame, perhaps 30 to 40 years.

-- ROG Controls Only

Implement only measures required to control ROG emissions.

-- Alternative Growth Scenario

Adopt similar control measures, but implement them to accommodate any changes in population growth or geographic distribution.

5-91

Please refer to the responses for comment 2-1, 2-2, 2-7, and 2-21. Attachments 1 and 2 specifically address the alternatives issue.

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Moreover, the Draft AQMP lists a host of "key policy issues that must be resolved in order to develop the Final Air Quality Management Plan." (Draft AQMP, p. 7-1) The list includes questions about the stringency of controls and questions as to whether alternatives to the control measures would be more acceptable. For example, the introduction to the discussion of policy issues contains the following discussion:

Every resident knows how serious the air quality problem is.
The tough questions involve:

- Who and what gets regulated,
 - At what cost, and
 - Causing what social and economic repercussions?
- (Draft AQMP, p. 7-1)

The Draft AQMP and Draft EIR thus address the issue of alternatives and provide the outline of a plausible list of alternatives. For example, the alternative of "ROG controls only" takes into account the possibility that ROG controls are the most cost-effective means of controlling ozone and that ozone is the most important air pollutant in the Basin. It also seems reasonable to consider the implications of requiring both less stringent and more stringent controls, and of delaying compliance.

The Draft EIR does not, however, contain any quantitative information on the costs and benefits of these alternatives. Thus, it does not permit one to determine whether one of these alternatives would be superior to the Draft AQMP, either in terms of cost-effectiveness of achieving air quality goals or in terms of minimizing any other impacts.

B. Cost-effectiveness Comparisons

To provide an indication of the information that might be presented, Table 11 lists the information on cost and emissions reductions for a single control measure. (This information was contained in an EIR for Amendment to Rule 1109 to

5-92

Please refer to the responses for comments 5-87 and 5-88. For more detailed information concerning the alternative control measures to the AQMP, please refer to Attachment 1 of this text which provides a qualitative comparison of socioeconomic impacts.

reduce NOx emissions from boilers and process heaters in petroleum refineries.)

Table 11 compares the incremental cost and incremental emission reductions of four control alternatives ranging from no additional controls to an emission standard of

0.02 pounds of NOx per million Btus. This comparison indicates a pattern of increasing costs as requirements become more stringent, a pattern common in environmental control. The first emissions reductions are relatively inexpensive, but as one ratchets down the control level, controls become more costly. For example,

in the case of Proposed Rule 1109, the cost per ton of NOx reduced goes from approximately \$6,000 per ton for the less stringent control alternative, \$11,000 per ton for the proposed rule, and \$16,000 per ton for the more stringent alternative. Thus, as the stringency increases over this range, the cost per ton removed goes up by a factor of about 2.7.

Table 12 lists cost-effectiveness comparisons for three rules that have been proposed by the SCAQMD and which are contained in the Draft AQMP. By comparing the average cost-effectiveness of the three rules, one can see that some regulations will on average be much more costly than others. For example, Proposed Rule 1135 is almost five times as expensive as the proposed Amendment to Rule 1109. But this comparison understates the enormous variation in cost-effectiveness for individual units regulated by an individual rule. For example, Table 12 indicates that the cost per ton of NOx removed for Rule 1109 ranges from \$2,000 per ton to \$400,000 per ton, a factor of almost 200. The ranges are approximately the same for the other two rules. These enormous differences imply that the SCAQMD should increase the cost-effectiveness of regulations by targeting controls at some of the units within the Basin.

These examples indicate the type of information that should be developed in the Draft EIR. It should contain sufficient information to facilitate judgment of

5-93 Control costs, measured in dollars per ton reduced, generally do increase with increasing stringency of control. Please refer to Tables A and B attached to comment letter 7.

5-94 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the response for comment 4-4. Since all measures have been shown essential to meet all ambient air quality standards (please refer to Attachments 1 and 2), cost-effectiveness of individual issues becomes a must issue when the five-year Tier I implementation time frame is considered.

5-95 Your comments are noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Cost reductions from delaying compliance are speculative, while emissions reductions missed by delayed compliance are real. Based on extensive modeling, implementation of all control measures will be required to achieve attainment. Cost savings from not implementing Tier III are not available since control costs for Tier III have not been estimated.

the incremental costs and emissions reductions benefits of increasingly stringent controls. For example, the Draft EIR should provide information on the likely cost and emissions reductions from delaying compliance, or the costs savings and increased emissions from foregoing the Tier III controls. These estimates would permit one to comment on the wisdom of ratcheting down controls to more stringent levels. Without such cost and benefit comparisons, the listing of alternatives is of little value.

C. Alternative Regulatory Approaches

The Draft EIR and Draft AQMP mention regulatory alternatives, including the imposition of emission taxes, but provide no analysis of their importance or the details of how these would be implemented. Will the SCAQMD consider an emissions tax as an alternative method of reducing emissions? If so, how will the tax be set? Will the SCAQMD use the policy of an emissions cap to provide stationary sources with the flexibility to achieve emissions reductions at least cost? These and other questions are not addressed in the Draft EIR.

The U.S. Environmental Protection Agency has experimented with a variety of alternative regulatory approaches--such as the "bubble" policy--that could be transferred to the Basin. Indeed, the SCAQMD has used an emissions cap as a cost-effective means of reducing utility emissions. This experience should be included in the Draft EIR. In addition, several empirical studies have documented the prospective advantages and disadvantages of these alternative approaches. The information from these studies should also be assessed.

D. Summary

One of the major objectives of a Draft EIR is to inform the public about the alternatives that are being considered in public decisions. Indeed, both the National Environmental Policy Act and the California Environmental Quality Act

5-96 An emission charge control measure is included in the AQMP in Tier II. Emission charges and implementation issues will be fully addressed and assessed, as is appropriate, during the rule development process. Please refer to the response for comment 2-5.

5-97 The level of detail in the EIR is, of necessity, very general. The District's current rules set the required emissions reduction levels, and impacted companies have the flexibility to meet emissions reduction targets by using the control technologies that minimize costs.

The District has identified Basin "carrying capacity" for primary criteria pollutant emissions which appears comparable to your concept of an "emission cap." As previously noted, only the District's AQMP contains sufficient emissions reductions to achieve (or nearly so) all federal standards. See the attached Table 1 and compare it with Tables 2-1, 2-14, 2-15, and 2-16 in the December, 1988 EIR.

5-98 Your comment is noted and will be forwarded to the District Board for consideration in its decision on the AQMP. Please refer to Attachments 1 and 2 for which address alternatives in detail.

5-99 Your comments are noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the response for comments 2-4 and 2-14.

5-100

Please refer to Attachment 1 of this Addendum.

5-99

require that alternatives be presented and evaluated. Certainly such a complex plan as that contained in the Draft AQMP needs to be seen as a series of choices, rather than as a immutable package that must either be accepted or rejected.

5-100

The Draft EIR provides insufficient analysis of alternatives. We have suggested the types of analyses that can be undertaken focusing on comparisons that would indicate the cost-effectiveness of alternative policy choices and on evaluations of innovative regulatory alternatives.

VI. CONCLUSION

The Draft EIR submitted in September 1988 fails to provide adequate information on the costs, benefits and other impacts of the Draft AQMP. As a result, it is extremely difficult for the public to assess the Draft AQMP. Although we are currently studying the Draft AQMP and the Draft EIR with the limited information that is provided--and will submit a report evaluating the Draft AQMP when our study is complete--our review and that of other commentators would be aided a good deal by a more complete EIR. We urge the SCAQMD to revise the Draft EIR and provide the information we have outlined in these comments.

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DEANE DANA
MICHAEL D. ANTONOVICH

RESPONSES TO COMMENTS
CHIEF ADMINISTRATORS OFFICE,
COUNTY OF LOS ANGELES (10/26/88)
COMMENT LETTER #6

RICHARD B. DIXON
CHIEF ADMINISTRATIVE OFFICER

October 26, 1988

Mr. Norton Younglove
Chairman
South Coast Air Quality
Management District
9150 Flair Drive
El Monte, CA 91731

Dear Mr. Younglove:

On October 18, 1988, the Los Angeles County Board of Supervisors adopted a report from my office as a framework for the County's public comment to the District's 1988 Draft Air Quality Management Plan (AQMP). The Board endorses the need to take action to sharply increase air quality throughout Los Angeles County and the Basin area, while at the same time expressing concerns regarding the specific provisions of the plan as reflected in the attached adopted report. We are asking that the District acknowledge the County's concerns and that these be reviewed and addressed.

Our analysis of the AQMP delineated serious concerns which would have far reaching effects on the County and the economy of the air basin. While many of the proposed measures are inadequately defined, have unknown costs and no identified funding sources, others have uncertain technological feasibility, and even if technically feasible, raise deep reservations about economic feasibility. As stated in our report, the proposed plan does not consider the effects of allocating unlimited financial resources to implementation of the plan, such as loss of ability of public agencies to address other pressing problems and erosion of the region's competitive position in attracting and retaining business. Further, the plan does not address the issue of whether there exists a collective will to implement the plan despite its costs and effects, or how to generate needed public support.

- 6-1 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the A.Q.M.P.
- 6-2 Appendix F to the December, 1988 EIR has quantified the socioeconomic impacts of Tier I control measures, the Regional Mobility Plan, and the Growth Management Plan. Costs for new technology applications will be provided as these applications are developed. Feasibility and funding sources of each control measure will be further identified in the rule-making process. Please refer to the responses for comments 2-10, 2-20, and 2-31 which address feasibility.
- 6-3 Fiscal impacts, as they relate to local government tax revenues, are discussed on page F-7 of Appendix F to the December, 1988 EIR. As the data indicate, the financial commitment is limited, not unlimited. The choices each local jurisdiction makes in allocating these funds between competing interests is a function not only of the regulatory environment but of the political process and public consensus.

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CHIEF ADMINISTRATIVE OFFICER
COUNTY OF LOS ANGELES

713 HALL OF ADMINISTRATION - LOS ANGELES CALIFORNIA 90012
(213) 974-1101

RICHARD B. DIXON
CHIEF ADMINISTRATIVE OFFICER

MEMBERS OF THE BOARD

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Our analysis of the AQMP delineated serious concerns which would have far reaching effects on the County and the economy of the air basin. While many of the proposed measures are inadequately defined, have unknown costs and no identified funding sources, others have uncertain technological feasibility, and even if technically feasible, raise deep reservations about economic feasibility. As stated in our report, the proposed plan does not consider the effects of allocating unlimited financial resources to implementation of the plan, such as loss of ability of public agencies to address other pressing problems and erosion of the Region's competitive position in attracting and retaining business. Further, the plan does not address the issue of whether there exists a collective will to implement the plan despite its costs and effects, or how to generate needed public support.

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Although the Basin's air emissions requirements are the most stringent in the nation, the Basin's economy has not lost its competitiveness to date. On the contrary, it remains robust and growing, especially when compared with other geographical areas of the nation. Firms will have to make their own decisions to adjust to the regulatory environment. Government regulation is only one dimension affecting industrial location decisions.

6-5

Please refer to the responses for comments 2-10, 2-27, 2-30, 2-31, and 2-33. The District and SCAG have identified target dates for adoption of local ordinances by city governments. Strategies for prioritizing and ordering the implementation of these ordinances are left to local government to develop as a function of their particular needs, circumstances, and readiness to take action.

The District is prepared to work directly with local governments to achieve AQMP implementation goals. Additional impetus for cooperative efforts will come from other sources, including the possible imposition by the court of a Federal Implementation Plan, potential sanctions by the EPA, public pressure for improved air quality, financial benefits for tourism, and reduced health care costs, among others.

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6-6 The County's general response to the AQMP is that the proposed measures should be implemented after, and only after all associated impacts are identified and quantified to the extent possible.

While the plan addresses the need to improve air quality, we believe that further definition and revision are essential in the following areas before County support for the AQMP can be offered:

6-7 -- [The plan's direct effect on water quality and land use.]

6-8 -- [The importance of air quality vs. crime, drugs and disease]

6-9 -- [Need to address the possibility that the plan will create a non-competitive business environment in the air basin, affecting business decisions to locate or remain in the air basin as well as willingness of out-of-basin businesses such as airlines to continue to serve the area despite the cost of emission controls for their fleets.]

6-10 -- [Need for a complete financial analysis of the plan, including cost data for each measure and identification of funding sources.]

6-11 -- [Need to address enforcement methods and costs]

6-12 -- [Need to address methodology for replacing high-polluting industries with low-polluting industries]

6-13 -- [Need to address identification of receptor sites for out-of-basin transportation of waste.]

6-14 -- [Recognition of the County's mandate to provide needed public services, i.e., firefighting equipment.]

6-15 -- [Need for a balance between the County's expenditure of financial resources on compliance with control measures and a minimum level of public services which must be preserved. Alternative funding sources for emission controls for public agencies should be identified in view of the large undefined cost currently in the plan.]

6-6 Your comment is noted. Please refer to the responses for comments 2-5 and 2-14. To the degree feasible, all imports have been characterized in the documents referenced in these responses to comments.

6-7 The Plan's direct effect on water quality and land uses is analyzed in the December, 1988 EIR, Sections 4-1 and 4-7 respectively. The potential for significant adverse impacts to water quality will exist but is subject to mitigation below a significant level. Land use impacts associated with AQMP implementation were generally defined as having potentially unavailable significant adverse impacts. Please refer also to the Growth Management and Regional Mobility Plans EIRs which have been incorporated by reference.

6-8 Your comment is noted. The importance of air quality vs. crime, drugs, and disease is a difficult and subjective issue that only Basin residents can address through the political process. Each community will have to make determinations on meeting community needs based on its specific circumstances. Certainly both issues significantly impact Basin residents and require resolute and immediate support by each community.

6-9 The large size of the Basin's market for air transport--both passenger and cargo--coupled with the competitiveness of the air carrier industry in today's deregulated market strongly suggests that the air transport needs of the Basin will continue to be served despite the cost of emission controls on aircraft. The economic evaluations contained in the December, 1988 EIR and appendix do not indicate this type of impact will occur. Refer also to the response for comment 6-4.

6-10 Please refer to the response for comment 6-2.

t1-t2 The County's general response to the AQMP is that the proposed measures should be implemented after, and only after all associated impacts are identified and quantified to the extent possible.

While the plan addresses the need to improve air quality, we believe that further definition and revision are essential in the following areas before County support for the AQMP can be offered:

11-7 -- The plan's direct effect on water quality and land use.

68 -- [The importance of air quality vs. crime, drugs and disease]

-- Need to address the possibility that the plan will create a non-competitive business environment in the air basin, affecting business decisions to locate or remain in the air basin as well as willingness of out-of-basin businesses such as airlines to continue to serve the area despite the cost of emission controls for their fleets.

6-10 -- Need for a complete financial analysis of the plan, including cost data for each measure and identification of funding sources.

(-11) -- [Need to address enforcement methods and costs]

6.12 -- [Need to address methodology for replacing high-polluting industries with low-polluting industries]

1-11 -- Need to address identification of receptor sites for out-of-basin transportation of waste.

6-14 -- Recognition of the County's mandate to provide needed public services, i.e., firefighting equipment.

1.16. -- Need for a balance between the County's expenditure of financial resources on compliance with control measures and a minimum level of public services which must be preserved. Alternative funding sources for emission controls for public agencies should be identified in view of the large undefined cost currently in the plan.

6-11 The enforcement of control measures undertaken by private industry is the responsibility of the District. District permits specify the conditions under which emission sources can operate. District enforcement activities are funded by permit fees and fines. Enforcement of control measures undertaken by local government is described in Appendix IV-G. Local government enforcement efforts can be funded by increased development fees and possibly by state reimbursement for activities required by the AQMP (state reimbursement is contingent upon the passage of state legislation). Services provided voluntarily by local governments may suffer if funding for required AQMP activities is not provided.

6-12 A transmitter methodology for industries with higher emissions to those with lower emissions has already been developed by many communities and may not be necessary if emission reductions identified in this plan can be implemented as described in the December, 1988 EIR and Appendix F. Additional support methodology may need to be developed as specific measures are implemented in conjunction with local governments.

6-13 Identification of specific waste receptor sites is beyond the scope of this plan. This will be done when the control measure is compounded for implementation.

6-14 Your comment is noted and will be forwarded to the District Board for consideration. Please refer to the December, 1988 EIR, page 4-13-1, paragraph 1-3, which responds to your comment. Mitigation, in the form of a funding plan for additional public services, must be included at the time of implementing control measures that have public service implications.

6-15 Your comment is noted. Please refer to the response for comment 6-3. Additional consideration of public agency impacts will be required when specific measures affecting them are considered for implementation.

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6-16 -- Need for a public education campaign to support broad-based behavioral changes.

6-17 -- Need for concurrence of the public and private sectors of this region before the plan is forwarded to the EPA as local input.

6-18 In addition, your staff has identified a number of policy issues in Section 7 of the Executive Summary of the draft AQMP, stating that these issues must be "resolved" prior to adoption of the final AQMP. We support your staff's recognition of these issues. Their resolution will in large part determine the feasibility and acceptance of the plan. We ask that you pay particular attention to addressing these and the above issues raised by the County.

Thank you for the opportunity to comment on the draft AQMP. We look forward to continuing to work with your staff to forge an acceptable, feasible plan for improving air quality.

Sincerely, .

RICHARD B. DIXON
Chief Administrative Officer

RBD:BK
PG:lag
Attachment
c: Each Board Member
James Lents, PH.D., Executive Officer
Pll:ah

6-16

The AQMP development and review process represents the AQMD's most ambitious public outreach effort to date. AQMD and SCAG staff have held over 150 briefings since June 30, 1988 on the preliminary and draft plan. These briefings targeted elected officials and staff, other agencies, business interests, technical and professional organizations, environmental groups, and community groups representing a range of concerns and interests. The AQMD also has mounted an aggressive media campaign to make sure the general public is aware of the AQMP and overall agency air pollution control efforts.

It should be noted that adoption of the AQMP does not mean the end of the public's involvement in air quality planning issues. In setting the plan adoption hearing date, the AQMD Board directed staff to work with SCAG staff to propose the establishment of regional task forces to help develop a framework for incorporating such considerations as jobs/housing balance, socioeconomic impact analysis, and public participation/public education into the ongoing plan implementation and revision process. Such task forces, which would report back to the AQMD Board within 9 to 12 months, would supplement ongoing AQMD and SCAG advisory groups and public outreach activities. The task forces would include, at a minimum, representatives of large and small business, labor unions, ethnic minorities, academic and research institutions, homeowner and community groups, other agencies, and local government.

6-17

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

6-18

Your comment is noted and will be forwarded to the District Board for consideration.



**COUNTY OF LOS ANGELES
CHIEF ADMINISTRATIVE OFFICE**

713 HALL OF ADMINISTRATION • LOS ANGELES, CALIFORNIA 90012
914 1101

MEMBERS OF THE BOARD

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RICHARD B. DIXON
CHIEF ADMINISTRATIVE OFFICER

October 13, 1988

The Honorable Board of Supervisors
County of Los Angeles
383 Hall of Administration
500 West Temple Street
Los Angeles, California 90012

Dear Supervisors:

1988 DRAFT AIR QUALITY MANAGEMENT PLAN

On Supervisor Antonovich's, August 30, 1988 motion, your Board directed this office to establish a Departmental Task Force to analyze and comment on the impact of the proposed Air Quality Management Plan (AQMP) as it relates to County government and its citizens.

Findings

By necessity, due to limited time availability caused by delayed dissemination of the draft AQMP to the County, the County Task Force focused its review on the potential impact on County government operations. These findings are detailed in Attachment III. However, even within the limited review time, the Task Force identified serious concerns regarding the AQMP's potential dire consequences upon the Southern California competitive economic environment.

The AQMP as proposed has far reaching effects on the County of Los Angeles and the economy of the air basin. Many of the proposed measures are inadequately defined, have unknown costs and no identified funding sources.

Some measures have uncertain technological feasibility, and even if technically feasible, raise deep reservations about economic feasibility.

Honorable Board of Supervisors
October 13, 1988
Page 2

SCAQMD developed the AQMP by taking the 20-year goal of meeting air quality standards and developing a largely theoretical framework for doing so. It does not consider the effects of allocating unlimited financial resources to implementation of the plan, such as loss of ability of public agencies to address other pressing problems and erosion of the region's competitive position in attracting and retaining business. It does not address the issue of whether there exists a collective will to implement the plan despite its cost and effects, or how to generate needed public support. There are similar issues being raised by the Los Angeles Area Chamber of Commerce.

The deficiencies of the plan are discussed in detail on Attachment I. Attachment II is an excerpt from the AQMP detailing SCAQMD's policy issues.

The County's response to the draft AQMP should endorse the need to take action to improve air quality throughout Los Angeles County and the basin area. The measures proposed in the AQMP, however, should be implemented only after all associated impacts are identified and quantified to the extent possible.

While the plan addresses the need to improve air quality, we believe that further definition and revision are essential in several areas before support for the AQMP should be offered.

Conclusion

The County's response to the draft AQMP should contain the following elements:

- Expression of the County's concern about the plan's direct effect on water quality and land use as well as air quality,

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October 13, 1988
Page 3

and the priority of air quality versus other social and health issues such as crime, drugs and disease.

- Need to address the possibility that the plan will create a non-competitive business environment in the air basin, affecting business decisions to locate or remain in the air basin as well as willingness of out-of-basin businesses such as airlines to continue to serve the area despite the cost of emission controls for their fleets.
- Need for a complete financial analysis of the plan, including cost data for each measure and identification of funding sources.
- Need to address the policy issues raised by SCAQMD in Chapter 7 of the AQMP Executive Summary and the following additional policy issues raised by the County:
 - Enforcement methods and costs.
 - Definition of methodology for replacing high-polluting industries with low-polluting industries.
 - Identification of receptor sites for out-of-basin transportation.
- Mention of the County's mandate to provide needed public services including consideration of the following:
 - There are areas where compliance may not be technically possible; for example, firefighting equipment cannot be

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October 13, 1988
Page 4

converted to electrical power or to four-stroke from two-stroke gasoline engines.

- A balance should be struck between the County's expenditure of financial resources on compliance with control measures and a minimum level of public services which must be preserved. Alternative funding sources for emission controls for public agencies should be identified in view of the large undefined cost currently in the plan.
- Need for a public education campaign to support broad-based behavioral changes.
- Need for concurrence of the public and private sectors of this region before the plan is forwarded to the EPA as local input.

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Honorable Board of Supervisors
October 13, 1988
Page 5

THEREFORE, IT IS RECOMMENDED THAT YOUR BOARD:

Approve the attached report on the draft Air Quality Management Plan and instruct the Chief Administrative Officer to prepare a letter to the SCAQMD and SCAG Boards of Directors expressing the County's concerns as delineated in the above conclusions.

Respectfully submitted,



RICHARD R. DIXON
Chief Administrative Officer

RBD:BK

PVB:lag

Attachments

c: County Counsel

Executive Officer/Clerk of the Board

Pl1:AQMP

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ATTACHMENT I

Summary of Plan

- The plan is designed to reduce four types of emissions to meet Federal standards by the year 2007. They are ozone, carbon monoxide, fine particulate matter and nitrogen dioxide.
- The plan considers projected growth which will more than offset gains in air quality achieved by measures currently in force: "Almost all the emission reductions expected over the next few years as a result of the rules currently in effect will be lost to the impact of the projected 37% increase in jobs, housing and traffic."
- The plan contains three levels of implementation, Tiers I, II, and III, based upon availability of technology. While the details of even some Tier I measures are sketchy, the Tier II and III measures are progressively less well defined (see attached Table 1).
- The core of the plan is the 81 Tier I control measures developed by AQMD along with 30 measures developed by SCAG and 14 measures developed by the State Air Resources Board. These are controls that can be adopted within the next five years using existing technology and current management practices. These measures encompass controls on the following: industrial processes; recovery and further combustion of emissions; residential equipment and products; commercial food processing; waste treatment; technical motor vehicle improvements; behavioral transportation system and land use changes; and mobile recreational, commercial, freight and construction vehicles.
- Tier I controls will bring the air basin into compliance with federal standards for carbon monoxide and nitrogen dioxide.
- Tier II measures, not specifically defined, will incorporate advances to existing technology and will bring the air basin into compliance with the Federal, but not the State, standards for fine particulate matter.
- Tier II measures will consist of setting technology - forcing standards through regulatory action and establishing a system of emission charges that provide an economic incentive to reduce emissions.
- Tier II measures cannot be evaluated for economic or social impact to the air basin.

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- The impact of Tier III measures cannot be defined.

The AQMP cites a cost for implementation of Tier I measures of 65¢ per day per resident of the air basin and an offsetting benefit of \$2.00 per day. The following should be noted regarding these figures:

- The \$2.00 benefit is based upon health improvements and avoidance of penalties levied by Federal and State agencies. This benefit appears "Idealistic" and may be overstated due to unknown health detriments caused by the control measures themselves. For example, the Department of Health Services points out that [formaldehyde, a probable human carcinogen, is a by-product of methanol combustion. Formaldehyde also can irritate the nose and throat. Thus medical costs due to this emission may increase, while they are expected to decrease from reduction of carbon monoxide and ozone]

In addition, the effect of devoting so many financial resources to non-productive efforts such as emission control devices may seriously effect the productivity of the business community and the public sector of the air basin. To the extent that County and other public resources are devoted to implementation of the plan, less money will be available for public protection and service activities. The plan may also create a non-competitive business environment in the air basin.

- 6-21 The \$2 per person daily benefit of the Plan is a partial estimate of benefits from complying with the federal ozone and particulates standards. Benefit calculations are based on the equations in Table 5-18 of the 1986 ARB report The Benefits of Air Pollution Control in California. The estimate does not include "avoidance of penalties levied by Federal and State agencies." Please refer to pages 4-18-1 through 4-18-2 in the December, 1988 EIR and to the responses for comments 5-87 and 5-88.

-- Tier III measures needed to reduce ozone levels will depend on development of new technology. There are no specific measures defined but the concept is to eliminate emissions from coatings and solvents and to totally eliminate combustion processes from motor vehicles.

-- The impact of Tier III measures cannot be defined.

-- As an alternative to Tier III measures, if sufficient technologies are not developed by the mid-1990's, high-polluting industries will be replaced with low-polluting industries of equal employment potential. No methodology for this replacement is given.

Cost Effectiveness of Plan

The AQMP cites a cost for implementation of Tier I measures of 65¢ per day per resident of the air basin and an offsetting benefit of \$2.00 per day. The following should be noted regarding these figures:

6-19 -- [Many of the Tier I measures are not included in the cost estimate. Of the 81 SCAQMD-developed Tier I measures, 22 or 27%, have undetermined cost. Only 10 of the 30 SCAG measures had any information regarding cost, some of which was not
6-20 definitive, e.g. "in the millions."]

-- [The \$2.00 benefit is based upon health improvements and avoidance of penalties levied by Federal and State agencies. This benefit appears "idealistic" and may be overstated due to unknown health detriments caused by the control measures themselves. For example, the Department of Health Services points out that [formaldehyde, a probable human carcinogen, is a by-product of methanol combustion. Formaldehyde also
6-21 can irritate the nose and throat. Thus medical costs due to this emission may increase, while they are expected to decrease from reduction of carbon monoxide and ozone.]
6-22

We conclude that the cost-effectiveness of the plan is not proven, and that there will be very substantial direct costs to the County.

6-23 [In addition, the effect of devoting so many financial resources to non-productive efforts such as emission control devices may seriously effect the productivity of the business community and
6-24 the public sector of the air basin. To the extent that County and other public resources are devoted to implementation of the plan, less money will be available for public protection and service activities. The plan may also create a non-competitive
6-25 business environment in the air basin.]

6-22

Studies concerning methanol have been completed and are in progress for numerous topics including health effects of automotive methanol vapors and formaldehyde produced by methanol, cancer epidemiology of formaldehyde, methanol flammability, safety considerations for storing, transporting, and dispensing methanol, and potential groundwater contamination of methanol fuels. The results of these analyses will be considered during subsequent activity. Please refer to the responses for comments 2-8 and 2-24.

The environmental consequences resulting from implementation of the AQMP are discussed in the FEIR December, 1988 EIR and in Attachment 6.

6-23

Your comment is noted. Please refer to the responses for comments 6-4 and 6-3.

6-24

Your comment is noted. Please refer to the response for comment 6-3.

6-25

Please refer to the response for comment 6-4.

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Coordination Between Plans

6-26 It is evident that there is little coordination between the SCAG-developed portion of the plan (Appendix IV G) dealing with transportation, land-use and energy conservation, and the SCAQMD-developed measures. For example, one SCAQMD Tier I measure, transportation of solid waste out of the air basin, would require prior implementation of a SCAG measure, electrification of railroads, which would not occur until Tier II. For this same measure, although several major implementation problems are identified, the issue of who would be willing to receive the air basin's solid waste is not even mentioned.

In addition, the Federal Environmental Protection Agency (EPA) has recently been ordered through court action to develop an air quality plan for the basin. SCAQMD staff states that this will not substitute for the current draft AQMP, but that the AQMP will be used as public input to EPA's process. The AQMP will also be used to address the State's air quality standards. Because the AQMP will be used as input to the EPA's plan, its provisions remain of great concern to the County.

Effects of Plan on Los Angeles County

6-27 The scope of the plan indicates immense, undefined costs. The County will be directly and indirectly impacted. The attached summary of departmental input identifies many major and minor costs of emission control devices. For each dollar spent by the County on emission control implementation, one dollar less is available to meet public service needs. Whereas private businesses are able to increase the cost of their products and services to recoup the cost of compliance with regulations resulting from the plan, the County's cost of compliance would be met from within existing resources.

As a major purchaser of goods and services, the County will be impacted by the increased cost of manufacturing, selling and delivering goods in the air basin, as will other agencies, private businesses and consumers.

6-28 As a provider of public services, the County may be impacted by increased incidence of health problems from increased environmental levels of the by-products of substitute fuel combustion. It will certainly be impacted by the increased cost of delivering services to a decentralized residential population as envisioned by the measures concerning land use controls on job/housing mix.

- 26 Please refer to the responses for comments 2-9, 2-13, 1-48, and 2-76. The December, 1988 EIR and the AQMP reflected greater coordination between the two agencies.
- 27 Please refer to the responses for comments 6-3 and 6-8.
- 28 Please refer to Attachment 6 and to the response for comment 6-22.
- 29 Your comment is noted. Please refer to the response for comment 6-3.

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6-30 Finally, the County could be severely impacted in the event that the resulting changes in the business climate of the air basin from implementation of the plan caused a general departure of business from the air basin, leaving an economically dependent population with a severely eroded economic base to support their needed government services.

General Socio-Economic Effects of the Plan

6-31 It is difficult to analyze the socio-economic effects of the plan without greater detail on methods of implementation and definition of costs and funding sources.

6-12 For example, one of the six contingency plans, restriction of registration of vehicles, is discussed in terms of several implementation scenarios--extremely high fees, quotas by air basin or sub-region, and quotas by household--but not ultimately defined. Enforcement issues and their cost are not addressed. This measure could result in failure to register cars and could impact the less affluent segments of the community disproportionately.

6-33 The cost of implementation could result in a local inflationary factor which could severely erode the business climate of the air basin resulting in economic decline.

6-34 The plan would require significant changes in the behavior of the residents of the air basin, particularly in the mobility area. There may be loss of recreational opportunities due to restrictions on personal driving, loss of privacy with respect to scrutiny by employers of commute modes or scrutiny by the government of the number of cars registered to a household, loss of options on where to reside due to increased financial impact of commuting and changes in job/housing balance, and increased costs of everything from personal hygiene products to take-out food to air travel for the consumer. It is clear that virtually every household in the air basin would be affected.

Deficiencies of the Plan

6-35 While the plan addresses the obvious need to improve air quality in the air basin, it needs substantial revision and further definition before it can be supported by Los Angeles County, nor should it be advanced as local input to the EPA plan without the support and concurrence of the public and private sectors of this region. Among the deficiencies to be addressed are:

6-16 -- A complete financial analysis is needed, including cost data for each measure and identification of funding sources.

6-30 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Refer to the response for comment 6-4. In addition, the large size of the Basin's market suggests that businesses will remain here and new businesses will continue to be attracted. Imposition of air pollution controls is not the only factor affecting business relocation. Other factors are labor costs, market potential, availability of manufacturing space, competitiveness, and the political climate to parcel out jobs throughout the U.S. (Los Angeles Times, 1988).

6-31 Please refer to Section 4-18 in the December, 1988 EIR and to attachment F.

6-32 Please refer to the response for comment 7-17. Specific means of implementing and enforcing the control measures must be defined when they are considered for rule-making. Until then any attempt to be more specific would be speculative.

6-33 The "local inflationary factor" of AQMP control costs is insufficient, in itself, to cause a severe erosion of the Basin's economic climate. Price impacts resulting from the purchase and installation of air pollution abatement equipment are discussed on page 4-18-6 in the December, 1988 EIR. Also, please refer to the response for comment 6-4 and to Appendix F.

6-34 Some of the potential significant changes noted in your comment may occur due to the nature of the control measures. Some impacts are subject to mitigation (mass transit to recreation facilities, additional free time to individuals as a result of car pooling, and reduced vehicle maintenance costs). The degree of feasible mitigation must be determined at the time specific measures are considered for implementation.

6-35 Your comment is noted. Please refer to the response for comment 6-6.

6-36 Please refer to the response for comment 6-2.

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- 6-37 -- [The public education campaign which would be necessary to support broad-based behavioral changes should be defined and financing sources identified.]
- 6-38 -- [The policy issues raised by SCAQMD in Chapter 7 of the attached Executive Summary (see Attachment II) and characterized by that agency as issues which must be resolved prior to adoption of the final AQMP should be addressed. Given the time frames projected by SCAQMD, it does not appear that the policy issues will be addressed, thus rendering the plan questionable in terms of feasibility. Additional policy issues not mentioned by SCAQMD are the following:
- 6-39 -- [How will the measures be enforced and what is the cost of enforcement?
- 6-40 -- [What is the methodology for the last - ditch effort of replacing polluting industries with clean industries?
- 6-41 -- [Where does air quality fit into the priorities among social and health issues such as control of crime, drugs and disease, as is the inherent assumption of the plan?
- 6-42 -- [How will out-of-basin businesses such as airlines accept expensive control measures? Can we withstand possible withdrawal of goods and services such as air transportation?
- 6-43 -- [Who, and at what cost, will accept pollutants from the air basin if they were to be transported out?

Conclusion

In conclusion, we believe it is unwise to rush into adoption of a plan of this scope and duration. All of the above deficiencies should be addressed prior to adoption of the final AQMP.

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6-37 Please refer to the response for comment 6-16.

6-38 Your comment is noted and the issues have been addressed to the degree feasible in the December, 1988 EIR, the addendum and the December, 1988 Plan Modifications.

6-39 Please refer to the responses for comments 6-11 and 2-143. Quantitative estimates of enforcement costs are not feasible until specific measures are considered for implementation. These costs will increase, but the significance cannot be accurately predicted at the plan stage of review.

6-40 Please refer to the response for comment 6-12.

6-41 Please refer to the response for comment 6-8.

6-42 Please refer to the response for comment 6-9. The potential economic impacts are not judged to be so significant as to cause withdrawal of air transport or other major services.

6-43 The AQMP contains no measures for the transporting of pollutants outside the Basin, except for out-of-Basin projects. Please refer to the responses for comments 2-9, 2-13, and 2-108.

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OCT 28 1988

07 HARVARD AVE • P.O. BOX 880 • CLAREMONT 91711 • (714) 624-4531 • DEPARTMENT OF COMMUNITY DEVELOPMENT

October 27, 1988

Ms Suzanne Reed, Special Projects Coordinator
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

SUBJECT: Response to the Draft Environmental Impact Report (SCH #88021022) for the
1988 Revision to the Air Quality Management Plan

Dear Ms Reed:

The city of Claremont appreciates the opportunity to review and comment on the above-referenced draft environmental impact report (DEIR) for the 1988 revision to the air quality management plan. The city of Claremont's Environmental Quality Commission (EQC) serves as the hearing body responsible for conducting the environmental review of projects.

The EQC recognizes the need to develop a plan enabling the South Coast Air Basin (Basin) to attain federal emission standards for the six criteria pollutants by the year 2007. However, they stress the importance of better defining who has the enforcement responsibilities for implementing the measures of the various tiers, Tier I, II, and III, of the plan. The DEIR needs to be more specific regarding the cost of enforcement, the availability of funding, and the enforcement capabilities of the various agencies and/or jurisdictions responsible for implementation of the measures.

The EQC recommends that the DEIR identify those plan implementation measures likely to provide the greatest reduction in air pollutant levels in the Basin. The DEIR must also contain a thorough financial analysis, including the cost data for each measure and the anticipated funding sources. The possible soci-economic effects attributable to plan implementation need to be more thoroughly analyzed in the DEIR, based on an in-depth discussion of the ways the measures are to be enforced and funded.

The plan requires significant behavioral modifications of the residents in the Basin, especially as related to mobility. In regard to the growth management measure (pages 4-7-3 and 4-7-4), the EQC requests that the DEIR clarify what is considered to be a long commute to work as opposed to a short commuting distance. The DEIR must clarify this issue, as well as thoroughly assess the impacts associated with reducing the options available to individuals in deciding where to live within the Basin. The loss of options will result from the increased costs of commuting and therefore changes in the jobs/housing balance will take place.

RESPONSES TO COMMENTS
CITY OF CLAREMONT (10/27/88)
COMMENT LETTER # 7

7-1

Implementation and enforcement responsibilities for specific AQMP control measures will be determined as each control measure is considered for rule adoption. For the transportation, land use, and energy conservation measures, implementation responsibilities are described in detail in Appendix IV-G (September, 1988) and summarized in Tables 6-1 through 6-10 of the AQMP.

7-2

Since the AQMP is intended to represent a guideline for implementing measures geared towards the attainment of Tier I, II and III goals, the details of funding source and mechanism will be addressed implementing various program measures. For the District's portion of the Plan (stationary sources), funds will be generated through applications and permit fees, and emissions charges.

With regard to the regulated industries, these industries would finance the installation of control technology and/or compliance cost. Cost may in any case be transferred to the end user in the form of utility fees or increased prices of commodities produced by the respective industries.

Elements such as utilities, transportation and other infrastructure improvements, which are normally provided by the public sector, will require legislative actions at both the local and state level to appropriate funds for their implementation. At the general level of planning contained within the AQMP it is not possible to identify the specific level or method of funding for those control measures beyond Tier I.

7-3

Control measures have been ranked according to the tonnage of pollutants they reduce. These figures, categorized by criteria pollutant, e.g., NO_x, CO, etc., are presented in Table A attached to this letter.

Control measures have also been ranked according to cost effectiveness, that is, the dollar cost per ton of a specific pollutant reduced. These cost effectiveness ratios are presented in Table B attached to this letter.

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07 HARVARD AVE • P.O. BOX 880 • CLAREMONT 91711 • (714) 624-4531 • DEPARTMENT OF COMMUNITY DEVELOPMENT

October 27, 1988

Ms Suzanne Reed, Special Projects Coordinator
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

SUBJECT: Response to the Draft Environmental Impact Report (SCH #S8021022) for the
1988 Revision to the Air Quality Management Plan

Dear Ms Reed:

The city of Claremont appreciates the opportunity to review and comment on the above-referenced draft environmental impact report (DEIR) for the 1988 revision to the air quality management plan. The city of Claremont's Environmental Quality Commission (EQC) serves as the hearing body responsible for conducting the environmental review of projects.

7-1 The EQC recognizes the need to develop a plan enabling the South Coast Air Basin (Basin) to attain federal emission standards for the six criteria pollutants by the year 2007. However, they stress the importance of better defining who has the enforcement responsibilities for implementing the measures of the various tiers, Tier I, II, and III, of the plan. The DEIR needs to be more specific regarding the cost of enforcement, the availability of funding, and the enforcement capabilities of the various agencies and/or jurisdictions responsible for implementation of the measures.

7-3 The EQC recommends that the DEIR identify those plan implementation measures likely to provide the greatest reduction in air pollutant levels in the Basin. The DEIR must also contain a thorough financial analysis, including the cost data for each measure and the anticipated funding sources. The possible socio-economic effects attributable to plan implementation need to be more thoroughly analyzed in the DEIR, based on an in-depth discussion of the ways the measures are to be enforced and funded.

7-6 The plan requires significant behavioral modifications of the residents in the Basin, especially as related to mobility. In regard to the growth management measure (pages 4-7-3 and 4-7-4), the EQC requests that the DEIR clarify what is considered to be a long commute to work as opposed to a short commuting distance. The DEIR must clarify this issue, as well as thoroughly assess the impacts associated with reducing the options available to individuals in deciding where to live within the Basin. The loss of options will result from the increased costs of commuting and therefore changes in the jobs/housing balance will take place.

7-4 Cost estimates for individual Tier I control measures, where estimates can be made, are contained in Appendix IV-A. Cost estimates for new technologies applications will be provided as these applications are developed. Detailed cost assessments and a thorough financial analysis will be made in the rule-making process.

Funding sources are considered in the financial analysis during rule development. For the Transportation, Land Use, and Energy Conservation Measures, funding sources are identified in Appendix IV-G. For further information on funding sources, refer to the response to comment 7-2.

7-5 A more thorough analysis of the socio-economic impacts of the AQMP is contained in December, 1988 EIR and in Appendix F, which was also made available in December, 1988.

7-6 Your comment is noted and will be forwarded to the District Board for consideration in making its decision of the AQMP. By placing restrictions on polluting activities and through the use of monetary incentives, the measures contained in the AQMP are designed to bring about the behavioral changes necessary to reduce emissions sufficiently to meet the Federal Clean Air Standards. Since transportation is the greatest source of air pollution, modifications transportation modes and patterns will be necessary to achieve this goal.

7-7 No determination of what constitutes a "long commute" and what constitutes a "short commute" is necessary in considering how growth management measures can reduce commuting distance. It is the overall reduction in vehicle miles travelled and in congestion which is desired, rather than a goal of any specific distribution of commuting trips by length.

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107 HARVARD AVE • P.O. BOX 880 • CLAREMONT 91711 • (714) 624-4531 • DEPARTMENT OF COMMUNITY DEVELOPMENT

October 22, 1958

Ms Suzanne Reed, Special Projects Coordinator
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

SUBJECT: Response to the Draft Environmental Impact Report (SCH #38021022) for the 1988 Revision to the Air Quality Management Plan

Dear Ms Reed:

The city of Claremont appreciates the opportunity to review and comment on the above-referenced draft environmental impact report (DEIR) for the 1983 revision to the air quality management plan. The city of Claremont's Environmental Quality Commission (EQC) serves as the hearing body responsible for conducting the environmental review of projects.

The EQC recognizes the need to develop a plan enabling the South Coast Air Basin (Basin) to attain federal emission standards for the six criteria pollutants by the year 2007. However, they stress the importance of better defining who has the enforcement responsibilities for implementing the measures of the various tiers, Tier I, II, and III, of the plan. The DEIR needs to be more specific regarding the cost of enforcement, the availability of funding, and the enforcement capabilities of the various agencies and/or jurisdictions responsible for implementation of the measures.

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The Growth Management Plan (GMP) DEIR, pages 4-19 through 4-21, contains a discussion of location options available to Basin residents under the GMP. Without the RMP, the mobility of Basin residents would be more severely restricted and air quality would decline as well. These two plans must be implemented together to maintain individual residential location options within the basin.

Further, the GMP through the proposed job/housing balance policy and its implementation is designed to avoid exacerbation of present inequities by encouraging housing development and redevelopment and to promote accessible housing by ensuring an adequate supply where it is needed.

The GMP job-housing balance policy is designed to ensure a more equitable distribution of employment and housing opportunities throughout the region by promoting growth near where people live and where live and where more employment opportunities are needed. By increasing the housing stock to adequately meet the needs of the growing population, housing becomes more accessible and more affordable. Please refer to the GMP and RMP which serve as appendices to the EIR for detailed information on this topic.

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Emissions Reduction Summary

- 7-9 As summarized in Tables 2-2 through 2-4, the project emissions reductions for the two major classes of control measures for each of the three tiers are incomplete. Each table needs to include both the baseline data prior to the application of emissions reductions and the resultant emissions levels after implementation of the measures in each respective tier.

Chapter 4, Section 4-1, Air Quality

- 7-10 The EQC requests that the DEIR assess basin-wide emissions and emissions reductions for each of the criteria pollutants on the basis of a sixth alternative, namely a reasonably anticipated variation in control measure make-up in each tier. This alternative needs to be developed after a more thorough examination of what measures in each tier are "likely" to be adopted on the basis of cost-effectiveness.
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- 7-15 The DEIR must better define how the restriction on registration of passenger cars will be enforced. The costs associated with this measure need to be addressed under the transportation and land use section, pages 4-1-33 and 4-1-34. The socio-economic impacts associated with the increased population and the 5% registration reduction must be included in the DEIR. This measure may adversely effect the less affluent residents of the Basin.
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- 7-18 The DEIR needs to fully assess the amount of CO reduction that could be expected from minimizing car idling at drive-through facilities. The possible programs necessary to implement this control measure must be identified and analyzed in the DEIR. No information has been given as to what constitutes an acceptable amount of car idling. The DEIR should indicate whether this measure realistically involves the banning of drive-through fast food restaurants and banks.

Chapter 4, Section 4-2, Water Impacts

- 7-19 A more quantitative analysis must be provided regarding growth management and the demand for water supplies over the present levels.
- 7-20 The mitigation section on page 4-2-2 needs to include more quantitative data on the projected shortfall in the available water supplies as a result of the proposed development in the Basin.

7-9

The data included in the text of the DEIR are correct. The tables have been updated in the December, 1988 EIR to reflect the text.

7-10

Chapter 5 and Attachment 1 of the December, 1988 EIR contain discussions of several partial achievement alternatives: Implement Tiers I and II only, b. ROG Controls Emphasis, Implementation of Least Cost Measures Only, and Delayed Compliance. Only two of the alternatives identified of the nine evaluated will bring about compliance with federal ambient air quality standards, --the proposed AQMP and a more stringent alternative based on the District's modeling. An alternative similar to that suggested by the City is evaluated in the SCE and WSPA proposed alternatives. Please refer to Attachment I for more information.

7- 1

The District's predictions on ozone concentrations in the Basin are based on UAM modeling that requires extensive data acquisition and preparation efforts. Therefore, the recommended ozone modeling protocol (Appendix V-Q of AQMP 1988 Revision) consists of only a limited number of multi-day periods of adverse meteorological conditions, or episodes, selected using the CART (Classification and Regression Tree) analysis (Horie, 1987). As a result of the analysis, four meteorological classes have been derived using over 80 percent of the high-ozone days from 1983 to 1985. By modeling the representative episodes corresponding to these four classes with different sets of emission scenario data and knowing the frequencies of occurrence of these episodes, it is possible to roughly estimate the reductions of numbers of high-ozone days in future years resulting from the proposed control measures. This is a very ambitious program being pursued by the District.

The draft AQMP 1988 Revision ozone predictions, however, are based on UAM modeling of a single Met-Class 1 (met severe) episode. By examining a worst case set of conditions and achieving compliance with federal standards for this condition, the Basin should not experience any ozone violations of the federal standard in the year 2010. Additional information is provided in Section 4.1 of the 12/88 EIR.

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Chapter 4, Section 4-2, Water Impacts

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7-12

7-13

These numbers have been included in Figure 4-1.2 of the 12/88 EIR.

The most significant effect of reduced ammonia emissions for the Basin is estimated to be about 24 percent of gaseous nitric acid (HNO₃) to ammonium nitrate. The annual average PM₁₀ concentration data for Rubidoux and Fontana for 1985 and 1986 as well as the estimated ammonium sulfate and ammonium nitrate mass fractions by Lurmann et al. (1988) are summarized in Table 1.

Using the 1985 and 1986 mean data, the increase in non-converted nitric acid concentrations due to reduced ammonia emissions is estimated to be approximately 1.10 ug/m₃ for Fontana. The predominant mode of deposition in the basin is expected to be dry deposition (Morgan and Lilestrand, 1980). Using a typical deposition velocity 2 cm/sec for HNO₃ (Huebert and Robert, 1985) we obtain an increase in dry deposition of 0.70 g/m²/yr of nitric acid for Rubidoux and 0.56 g/m for Fontana. These are quite comparable to the observed NO₃ depositions of 2 to 10 met/m²/yr in the Basin area by the wet mechanism (Karamchandani and Lurmann, 1986). The corresponding increase in sulfuric acid vapor dry depositions are estimated to be 0.038 g/m²/yr for Rubidoux and 0.027 g/m²/yr for Fontana. These estimated increases in acidic depositions are by no means major, but they are not negligible.

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- 7-18 The DEIR needs to fully assess the amount of CO reduction that could be expected from minimizing car idling at drive-through facilities. The possible programs necessary to implement this control measure must be identified and analyzed in the DEIR. No information has been given as to what constitutes an acceptable amount of car idling. The DEIR should indicate whether this measure realistically involves the banning of drive-through fast food restaurants and banks.

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TABLE 1
Annual Average PM10 Concentrations*
for Rubidoux and Fontana

Station	PM ₁₀ ug/m ³	SO ₄ ug/m ³	FS%	NO ₃ (ug/m ³)	FN%
<u>1985</u>					
Rubidoux	96.1	6.43	11	18.92	34
Fontana	74.3	4.23	9	17.29	40
<u>1986</u>					
Rubidoux	86.0	5.79	11	16.47	33
Fontana	74.3	5.25	12	11.04	26
<u>1985-86 Mean</u>					
Rubidoux	91.0	6.11	11	17.70	33
Fontana	74.3	4.74	10	14.16	33

* FS and FN are the estimated ammonium sulfate and ammonium nitrate fractions of PM₁₀ mass.

- 7-14 The impacts on agricultural operations are discussed in more detail on pages 4-1-31 and 4-1-32 of the December, 1988 EIR.
- 7-15 A description of enforcement measures for the restriction of passenger vehicle registration appears on page II-6 of Appendix IV-A of the AQMP.
- 7-16 Stringent enforcement would be required to ensure compliance with the control measure. Significant costs are forecast to enforce the limitations on vehicle registration. The cost effectiveness for this control measure is uncertain at this time and requires further analysis, which will be performed during rule development.

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Emissions Reduction Summary

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Chapter 4, Section 4-2, Water Impacts

7-19

A more quantitative analysis must be provided regarding growth management and the demand for water supplies over the present levels.

7-20

The mitigation section on page 4-2-2 needs to include more quantitative data on the projected shortfall in the available water supplies as a result of the proposed development in the Basin.

7-17

In order not to create a disadvantage lower income vehicle owners, a variety of approaches could be implemented. If increases in vehicle registration fees are used to reduce vehicle registration, the cost impact on low income vehicle owners could be mitigated by an equal dollar refund on their state income tax. If a cap on the number of vehicles per household, or a criterion of adequacy of public transportation is used to reduce registrations, exemptions could be provided for those below a certain income level. This is a problem that will require resolution at the implementation phase to ensure equitable treatment of low income residents in the Basin.

7-18

Figure I, attached to this letter, shows the total idling time per car as a function of number of cars in the queue using data obtained in a drive-through facility queuing study (Fricker and Tsay, 1985). The study found that the facility had an average queue length of about 1.5 cars and a 3.5 minute average idling time per car during the two noontime hours in which data were collected. For a rough estimate, it is assumed that, as a result of improved design of facility (that is, two serving windows instead of one), the average queue length is reduced to one car and the average idling time per car is reduced to 2.8 minutes. Then there would be a 20 percent reduction of CO emissions, but the specific reduction remains to be quantified when an implementing rule is considered. Programs to implement this measure include local government design review to ensure that drive-through facilities have at least two service windows. Further details of the control measure will be developed during the rule adoption process. The measure is not intended to ban drive-through facilities, but to make them less polluting.

7-19

Water demands for the Basin are addressed in Chapter 3 -- Existing and Forecast Setting in the Basin. As indicated in this section, projected water demands will increase substantially in the future based on growth with or without the AQMP. In 1987, total water consumption within the Basin was slightly over 3 million acre feet. By the year 2010, the projected water demand is forecasted to be 3.9 million acre feet. The increase in water consumption is due in part to a population increase of 43 percent.

In the year 2010, an estimated 6.1 million people will be residing in the Basin. Assuming four people constitute one household with a daily water consumption of 333 gallons, a water supply of 1.5 million

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acre feet is needed to meet the increased population water demand. This residential water demand represents 39 percent of the total water demand as projected by MWD. The remaining 61 percent comprises the water demand for commercial, industrial, and agricultural purposes.

Presently, due to the low annual rainfall in the Basin over half of the water supply is imported. The imported water, which represents the dependable supply (that is, ground water replenishment) will be reduced due to curtailments or reductions of imported supply such as:

Delays in completion of the State Water Project having an adverse effect on MWD, the Project's largest contractor;

Significant reduction in California's allocation of water from the Colorado River; and

Potential shortages to the City of Los Angeles from reductions in the Owens Valley and Mono Basin sources creating a void which MWD would have to fill, further straining the dependable supply.

To offset the reductions of imported water supplies, there are a number of available water management strategies which could resolve the potential problems if implemented. These strategies (addressed below) include development of additional imported supplies, optimization of local supplies, and additional reliance on supplemental supplies from reclamation, desalination and water conservation.

Strategies include:

Strategies involving additional State Water Project capacity including augmentation of the Central Valley Project, development of Delta transfer facilities, development of surface storage facilities, wider utilization of groundwater basins, and water marketing to provide for greater purchase and transfers of water rights between areas and individuals;

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Short-term strategies for increased Colorado River water deliveries involving California's being able to divert more than 4.4 million acre feet, its annual appropriation in the next decade with MWD receiving all excess water;

Long-term strategies for Colorado River water involving more efficient use of the allotment through large-scale conservation and exchange measures; and

An aggressive program should be organized to protect groundwater quality in cooperation with all federal, state, and county regulatory bodies (Water Development, 1986).

- 7-20 Refer to the above response which addresses this comment.

000008

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The South Coast Air Basin is an area rich in diverse plant life, vegetation and agricultural crops. Approximately forty years ago oxidant air pollution damage to various plant life became apparent to Basin scientists and residents. Since then, much research has been done to confirm the fact that the high levels of criteria pollutants in the Basin contribute to substantial plant life damage (Air Pollution Effects on Plant Growth).

Ozone (O₃) probably does more damage to vegetation than any other criteria pollutant. Given the extremely high ozone levels monitored in the Basin each year, the cost of damage to plant life is substantial. Exposure for two or more hours to concentrations of 10 parts per hundred million of ozone-contaminated air may cause acute injury to several of the most sensitive species of plants. (Air Pollution Damage to Vegetation). The federal ozone standard of 12 parts per hundred million was exceeded at all monitoring locations in the South Coast Air Basin at least one day in 1987 with some stations exceeding this standard more than 100 days. The persistent effects of these ambient concentrations allow Basin plants little or no chance for detoxifying absorbed pollutants due to the lack of sufficient pollution-free times (R. Guderian, Air Pollution, 1977). The resulting damage to vegetation in the Basin is quite substantial. Ozone is not, however, the only pollutant known to cause vegetation damage.

Small grain crops such as barley, oats, rye, and wheat are relatively sensitive to SO₂ injury. Injury on these grain crops and other parallel-veined plants usually develop as necrotic streaks between the veins near the leaf tip that and extend toward the base as the severity of injury increases. On grasses and grains where the leaf blade curves downward, injury is usually most severe at the bend.

The Basin's combination of high levels of various criteria pollutants has also been shown to damage plant life. A study by Menser and Heggestad in 1966 first demonstrated a synergistic response by plants to exposure of several pollutants (Air Pollution Effects on Plant Growth, 1974). Hydrogen fluoride and nitrogen dioxide have been shown to be harmful to ornamental plants and citrus trees which are of great economic importance in California (McGraw-Hill Encyclopedia of Environmental Science), the nation's leading agricultural state. In 1984, crop receipts totaled \$16 billion. The

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South Coast Air Basin currently maintains approximately 3 million acres of land for farms. The following crops account for much of the Basin's revenue: grapefruit, lemons, corn, dates, and strawberries (California Almanac 24-4).

Air pollution has also been shown to cause substantial forest damage. While forests do not account for the vast amount of land in the Basin that farms do, there are still approximately 110,000 acres in San Bernardino County devoted to forestry (California Almanac).

Since air pollution has been demonstrated to damage the health of plant life, particularly agricultural crops, it is apparent that the "smog" levels in this Basin are extremely costly to residents. These crops are vital to the economic stability of the South Coast Air Basin. While it is very difficult to quantify the amount of damage caused by air pollution, the District estimates the cost of this damage to be \$9.6 billion annually. (SCAQMD, 1988) This figure was included in the Draft Air Quality Management Plan and is further broken down into health, agriculture, forest, and materials damage in the final version of the AQMP.

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Toxicological studies of the responses of laboratory animals to specified concentrations of pollutants have been conducted for many years. These bioassays have been used to obtain results from which human effects can be extrapolated. When both human and animal test subjects are used, many of the same physiological effects are apparent.

A recent study on this subject by California State University at Fullerton confirms this finding. Based on both animal and human studies, several adverse effects are attributable to ozone exposure. These include an increased susceptibility to respiratory infections, wheezing and other breathing difficulties, exercise impairment, and many severe lung impairments (Economic Assessment of the Health Benefits from Improvements in Air Quality, November, 1988). Impacts to the lungs may result in the development of fibrotic diseases in the lung and may constitute an important chronic health effect from ozone. Another Basin study on the effects of ozone exposure on domestic dogs is currently being conducted. Effects of pollution exposure may vary with animal species and surrounding conditions. Also, different chemical compounds may result in varying effects on animals.

Insecticides and pesticides can pose a significant threat to animals. Their food supply may become contaminated by exposure to various air pollutants and they could become ill or die as a result. Numerous documented cases of animal deaths have been related to this cause (Sell, Industrial Pollution Control). Chemicals and pollutants can then be carried through the food chain, affecting many different animal species.

Assessment of the effects of certain contaminants on livestock is relatively straightforward. Thus, contamination of forage by airborne fluorides and arsenicals from certain industrial operations has led to the loss of large numbers of cattle in the area adjacent to chemical or industrial facilities (McGraw-Hill Encyclopedia of Environmental Science). Thus, we can conclude that there is substantial evidence that air pollution damages both commercial plants and animals (Lave, Air Pollution and Human Health).

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Chapter 4-5 (pages 4-5-1 and 4-5-2) in the December, 1988 EIR provides additional generalized information regarding the potential for increased noise on surface streets. However, it is not possible to quantify such impacts because the volume of increase for any given location cannot be identified. Note, however, that the major surface streets that will most likely be used by heavy trucks already have high background noise levels and any noise increases due to trucks will not be as significant.

7-24

The noise impacts due to shifting aircraft departures will depend upon the times selected. The actual noise energy over a 24-hour period will not be increased. The impact to composite noise levels (CNEL or dn) may increase if more departures are scheduled in the evening or night hours. Also, additional night departures could cause nuisances due to single noise event associated with the departure. The potential for additional significant adverse noise impacts around airports will exist.

7-25

These data do not exist at this time. The issues individual responses to the opportunity for telecommuting and it is possible to address such a specific potential impact due to a lack of data and experience with the problem. The commentor has provided no information on these potential impacts, and it would be impermissibly speculative to discuss what the postulated "adverse social impacts" might be or how they would differ from the effects of the current practice of daily commuting.

7-26

As noted in the DEIR, the land use impacts of freeway capacity enhancements would begin to occur in Tier I, 1988 through 1993. Page 4-12-16 of the December, 1988 EIR indicates that Route 30 is assumed to be completed within the life of the plan, but the specific date is not identified since it is subject to funding decisions by the state and other agencies.

7-27

The federal and state ambient air quality standards are set at levels that will protect public health from the adverse impacts of the criteria pollutants (ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, and PM₁₀). The specific level for each criteria pollutant is established to provide a margin of safety to protect the health of sensitive individuals such as children or the elderly. Ambient air quality standards are based upon experimental laboratory studies and on public health studies.

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The District currently complies with the National Ambient Air Quality Standards for two criteria pollutants, sulfur dioxide and lead. With current controls, the District is expected to remain in compliance with these two pollutants (SCAQMD, 1987a). Therefore, these pollutants will not be discussed further. The remaining four criteria pollutants are discussed below.

Ozone

Ozone is a powerful oxidizing agent. It can react with and destroy many biologically important molecules. Laboratory experiments using animal models to demonstrate the effects of short-term exposure to ozone reveal severe respiratory irritation, resulting in shallow and rapid breathing. Analysis reveals that experimental animals are unable to expand their lungs fully, and/or their airways have increased flow resistance.

After exposure (to ozone), lab animals are often sacrificed and the target organs (respiratory tract) are examined. Short-term ozone exposure to several different species has shown respiratory tissue damage. Tissues typically become inflamed and swollen, and fluid may leak into the air passages from the blood. Cells specialized for defense and repair of injury may accumulate in the affected area. These same cells may release substances that contribute to developing pulmonary fibrosis (lung scar tissue). Some lab experiments have demonstrated that impaired defense mechanisms resulting from short-term exposure to ozone increase vulnerability to other diseases.

Generally, short-term lab exposures occur at ozone concentrations of 0.5 ppm or more. However, some lab studies have demonstrated tissue damage at concentrations as low as 0.1 to 0.2 ppm. These results verify the fact that tissue damage from ozone can occur at exposure levels that occur commonly during the summer in many of the inland areas of the Basin.

In addition to laboratory animal studies of the acute effects of short-term exposure to ozone, there have been a number of clinical studies conducted with healthy adult human volunteers exposed to a wide range of ozone exposures and activity levels. These studies demonstrate that, if the dose is sufficient, volunteers can experience a

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lower-respiratory irritant response, typically including coughing and pains in the chest, as well as a decline in performance on lung function tests.

There is indirect evidence that the irritant responses observed during clinical studies reflect damaging inflammatory responses in lung tissues similar to those observed in lab animal studies. For example, investigations have shown that, after exposure to ozone, airways respond with increased amounts of constricting agents such as acetylcholine or histamine. This may reflect tissue damage at the nerve endings which respond to the constricting agents.

Currently, it is unclear whether short-term effects of ozone exposure, if they occur repeatedly, lead to permanent lung damage and significant disability. Some, though not all, lung function testing has suggested a faster-than-usual decline with age in the more polluted areas of the Basin. If this effect is real, ozone is a likely candidate to be the causal agent.

According to data presented by Scheible (1988), air quality and emissions trend data available today indicate that reducing atmospheric NO_x levels leads to reductions in ozone over the majority of the Basin, especially in the those areas where ozone levels are the highest. The greatest ozone reductions occur, however, when both NO_x and ROG controls are being implemented. Scheible (1988) indicated that ROG-only controls were relatively ineffective in reducing ozone.

Therefore, as part of the overall District strategy to attain the federal ozone standard within the next 20 years, all Tier I NO_x emissions reductions must occur in conjunction with VOC emissions reductions (SCAQMD, 1987a). To provide the best interim ozone reductions, NO_x emissions reduction rules and VOC emissions reduction rules should be timed so that they are implemented concurrently to the greatest extent possible. By implementing the Tier I, II, and III controls as described in the AQMP, the Basin may attain as well as maintain the National Ambient air quality standard for ozone within the next 20 years.

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Nitrogen Dioxide (NO₂)

NO₂, like ozone, is an oxidizing agent, but it is not as strong as ozone. As stated earlier, the federal ambient air quality standards are based on research that demonstrates human health impacts resulting from NO₂ exposure. For example, there is evidence (Sherwin, 1988) that ambient levels of NO₂ can result in the following: high levels of subclinical lung diseases such as loss of lung reserves (healthy lung tissue); lesions; increase in type 2 cells; facilitation of cancer metastasis to the lungs; and alteration of T- lymphocyte and natural killer cell subpopulations, thus reducing the body's ability to defend itself against disease.

The primary goal of the short-term control measures to reduce NO_x emissions in the Basin is to attain the federal NO₂ standard to protect public health. Although there is no clear linear relationship between NO_x emissions reductions and reductions in ambient NO₂ concentrations, NO_x emissions reductions do lead to reductions in NO₂ levels. According to Scheible (1988), between the years 1978 and 1983, NO_x emissions reductions in the Basin totaled approximately 135 tons per day. As can be seen in Table 1 below, this period coincides with a period of steady decline in NO₂ levels. Ultimately, NO_x emissions reduction rules and VOC emissions reduction rules are projected to help ameliorate ozone air quality problems.

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TABLE 1
Nitrogen Dioxide in the South Coast Air Basin - Summary Statistics:
Trends in 6-Station Composite Average, 1978 - 1983
(Burbank, Long Beach, Lennox, West L.A., Downtown, L.A., Pasadena)

	1978	1979	1980	1981	1982	1983
6-Station Mean of Annual Average All hours¹	6.52	6.15	5.85	6.04	5.56	5.05
3-Year Running Mean of Above¹	6.53	6.17	6.01	5.82	5.55	5.21
6-Station Total of Days State Standard Was Exceeded (1 Hour Average 25 pphm)	90	78	78	62	25	27
3-Year Running Mean of Above	110	82	73	55	38	21

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Until recently, the Environmental Protection Agency (EPA) regulated total suspended particulate (TSP) matter; it now regulates PM₁₀, particulate matter with an aerodynamic diameter less than 10 micrometers (um). The reason for this change is that EPA assumes that particles smaller than 10 um present a greater health risk because they are more readily inhaled and can travel deeper into the respiratory tract. In addition, particles greater than 10 um are frequently naturally formed. Although chemical composition of a particle can influence its affect on health, the PM₁₀ standard does not address chemical composition.

In 1987, the annual average PM₁₀ concentrations in the Basin were approximately 80 percent above the federal standard (SCAQMD and SCAG, 1988). Because PM₁₀ levels are so high, the Basin has been classified by the EPA as a PM₁₀ Group I area, which is a designation for areas with a greater than 95 percent probability of not complying with the federal PM₁₀ standards.

NO_x emissions contribute to the formation of aerosol nitrates and nitric acid, which are important components of PM₁₀. Modeling results on the source apportionment of PM₁₀ concentrations in 1986 indicate that NO_x emissions contribute significantly to PM₁₀ levels. In general, the average nitrate component of the annual average is approximately 22 percent, with a range of between 15 and 33 percent (Liu, 1988). The source apportionment for the maximum 24-hour average PM₁₀ levels indicate that nitrate species make up 40 to 58 percent of the total PM₁₀ concentration (Liu, 1988). According to Lurmann (1988), 1985 and 1986 data of all 24 hour PM₁₀ exceedances reveal that, on the days with the highest levels of PM₁₀, the nitrate and nitrate-related species concentrations alone were higher than the 150 ug/m³ 24 hour standard.

PM₁₀ has negative health impacts because it is able to penetrate deeply into the respiratory system. In some cases, the particulates may cause loss of lung function by damaging the alveoli of the lungs. Such losses in respiratory function may predispose some individuals to increased susceptibility to other diseases. These particles may also carry carcinogens and other toxic compounds that can adhere to the particle surfaces, also causing injury to the lungs.

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Recent evidence (Lurmann, 1988) indicates that there is a correlation between NO_x controls and nitric acid and aerosol nitrate species reductions. The correlation is not 1:1, but is closer to 1:0.8. For example, modeling results for the Basin derived from the Russell et al. version of the Carnegie-Mellon/Cal Tech Airshed Model indicate that NO_x emissions reductions of approximately 60 percent would reduce nitric acid levels by as much as 50 percent and aerosol nitrates by as much as 40 percent (Lurmann, 1988).

By adopting an aggressive PM_{10} control strategy that focuses on primary emissions -- i.e. fugitive dust, heavy duty vehicle emissions etc. -- the Basin may eventually achieve compliance with the federal annual standard. This is not the case, however, with the state 24-hour standard. District data indicates that on high PM_{10} exceedance days, up to 58 percent of the PM_{10} concentration is composed of nitrate-related species. This means that the nitrate component of PM_{10} alone exceeds the 24-hour standard of 150 ug/m^3 . Therefore, the District must adopt NO_x emissions reduction rules in order to achieve the 24-hour PM_{10} standard (Lurmann, 1988).

Carbon Monoxide (CO)

CO is a colorless odorless gas produced by incomplete combustion of carbon-containing fuels. Most CO released into the atmosphere each year comes from the incomplete combustion of gasoline in cars. In 1985, the federal CO standard was exceeded in approximately one-quarter of the Basin (SCAQMD, 1986). In addition, CO levels are approximately twice the federal ambient air quality standard. District staff estimate that the CO ambient air quality standards may be attained within 15 to 20 years if CO emissions reduction strategies are energetically pursued.

The major physiological importance of CO is its ability to compete with oxygen for binding sites on the hemoglobin molecule in the blood cell, thus producing an anoxic or asphyxia hypoxia. Symptoms of CO poisoning include headaches, weakness, nausea, and dizziness, and fainting becomes a possibility. CO is a stronger ligand for hemoglobin than is oxygen and therefore has a stronger binding affinity. Indeed, CO binds with hemoglobin more than 200 hundred times more tightly than oxygen.

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In normal ambient air (oxygen content is approximately 21 percent), 50 percent of a person's hemoglobin is inactivated by CO when the air concentration of CO approaches 0.1 percent. CO not only displaces oxygen from the hemoglobin, but it affects certain characteristics of the bound oxygen. When both CO and oxygen are bound to the same hemoglobin molecule, the oxygen is bound tighter because of the drop in the partial pressure of the oxygen. This results in even less oxygen being released to the tissues.

Summary

Although major health effects of the criteria pollutants are well established, there are a number of questions that remain such as: do short-term irritant responses observable in clinical studies reflect actual damage to respiratory tissues; if so, do these damages persist; if damage does persist, does it measurably increase the risk of eventual disability or premature death; and what environmental factor(s) increase the rate of illness or premature death associated with particular criteria pollutants.

These unanswered questions illustrate difficult policy questions facing the District: which pollutants should be controlled most stringently to protect public health, and what is/are the best strategy/ies to achieve compliance with established ambient air quality standards. Any current policy decision, which is ultimately based on incomplete information, might not be the best or most efficient strategy for achieving the stated goals.

The South Coast Air Quality Management District is the agency responsible for developing and enforcing air pollution reduction rules and regulations in the Basin. The District is proposing to reduce criteria air pollutant emissions to all federal air quality standards by the year 2007 by implementing a three tier approach as stated in the 1988 Revision to the Air Quality Management Plan (SCAQMD and SCAG, 1988). Staff have concluded, on the basis of current (and necessarily incomplete) evidence, that the strategies outlined in the AQMP will produce the greatest benefits to public health with the least disruption. Other strategies, such as an ROG-only approach, will help reduce ozone concentrations in the Basin, but they do very little to reduce PM₁₀ concentrations. In addition, this approach may reduce the possibility of attaining and/or maintaining the NO₂ air

quality standards, especially in light of substantial population growth projected for the Basin (the expected annual regional growth for the next decade is projected to be 2.1 percent).

Chapter 4, Sections 4-3 and 4-4, Plant and Animal Life

- 7-21 Both sections should be expanded to contain a discussion of the effects of air pollutants on plant and animal life, respectively. Information on the impacts of poor air quality on agricultural production, tree growth, and productivity of animals needs to be provided in the DEIR.
- 7-22

Chapter 4, Section 4-5, Noise

- 7-23 The EQC requests that this section analyze the noise impacts associated with routing of trucks to surface streets during rush hours.
- 7-24 The noise impacts associated with shifting aircraft departures to off-peak hours, thereby spreading airport-related traffic over the entire day need to be included in this analysis.

Chapter 4, Section 4-7, Land Use Impacts

- 7-25 The discussion on telecommuting needs to be expanded to include data on the adverse social impacts on those individuals who do not want to work at home or in satellite work centers.
- 7-26 The freeway capacity enhancement subsection should indicate whether or not construction of the proposed Route 30 freeway has been assumed. The DEIR needs to identify the anticipated time frames for completion of the various freeway capacity enhancements.

Chapter 4, Section 4-17, Human Health

- 7-27 This section should include information on morbidity and mortality rates due to air pollutants.
- The effects of poor air quality on human health need to be discussed as related to the baseline projections for 1985, 2000, and 2010 and the implementation of the various emissions reductions control measures of each tier.

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To: Suzanne Reed, Special Projects Coordinator

Re:

October 27, 1988

7-28

Your comment is noted and will be forwarded to the District Board for its consideration in making a decision on the AQMP.

7-28

Although in support of the need to improve the ambient air quality in the Basin, the EQC stresses the importance of more clearly identifying and quantifying the impacts of the plan. The EQC would like to offer the concerns and suggestions as outlined on the attached pages for serious consideration when revising the DEIR. If any questions should arise regarding these comments, please feel free to contact me at 714/399-5469. The city of Claremont looks forward to becoming more actively involved in the continued development of the plan and its environmental analysis. The city would appreciate being sent copies of the final documents.

Sincerely,



TINA RYDER

Associate Planner

Department of Community Development

TR:deb

att:

cc: Claremont Environmental Quality Commission
Glenn D. Southard, City Manager
Sharon Z. Wood, Director of Community Development
Anthony Witt, City Planner

000001

By Suzanne Reed, Special Projects Coordinator

2.

October 27, 1988

7-28

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Department of Community Development

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Anthony Witt, City Planner

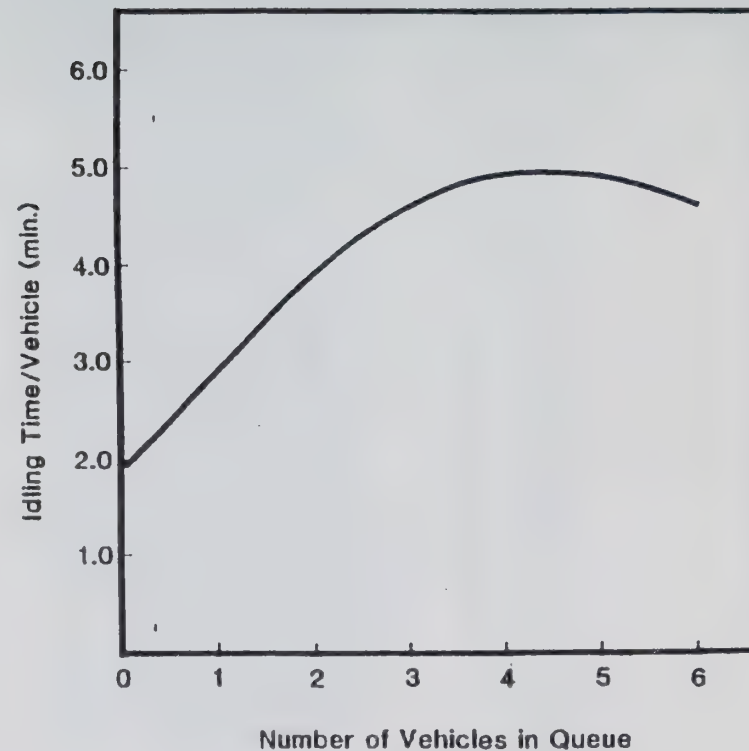


Figure 1
Observed Average Idling Time Per Vehicle
of a Drive-through Queue

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Ms Suzanne Reed, Special Projects Coordinator
 -2-
 October 27, 1988

7-28

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 Sharon Z. Wood, Director of Community Development
 Anthony Witt, City Planner

TABLE A

PRIORITIZED TIER 1 REDUCTION DATA FOR
 AQMP MEASURES (YEAR 2010)

1988 AQMP CONTROL MEASURES		ROG REDUCTION (1/0)
=====		
1	LOW ROG, CO STD FOR GLDV'S, (ROG, CO)	79.4
2	A-19) DOMESTIC PRODUCTS, (ROG)	74.6
3	IMPROVED I/M FOR AUTO, LDT, MDT, (ROG, NOX, CO)	50.4
4	F-1) INSTALLATION OF BARCT, (ALL)	46.6
5	18) GROWTH MGMT, (ALL)	46.5
6	F-8) NEW SOURCE REVIEW (ALL)	44
7	* A-6) AUTO REFINISHING, (ROG)	42.3
8	* A-2) WOOD FURNITURE, (ROG)	29.7
9	1-A) ALT WRK WEEK/FLEXTIME, (ALL)	24.6
10	4-B) TELECOMMUNICATIONS, (ALL) (1)	
11	A-12) METAL CLEAN & DEG, (ROG)	17.9
12	13) FREEWAY CAPAC ENHANCE, (ALL)	17.8
13	1-7) UTILITY EQUIPMENT, (ALL POLLUTANTS)	17.1
14	A-8a) ARCHITECTURE COATING, (ROG)	12.4
15	B-13) VALVES, PUMPS & COMPRESSORS, (ROG)	11.9
16	C-6) RUBBER PROD MFG, (ROG, PM)	11.7
17	1-2) LOW EMISS NEW JET AIR ENG, (ROG, NOX, CO)	11.3
18	A-11) CLEAN-UP SOLVENTS, (ROG)	11
19	2-A) EMP RIDESHR/TRANS INCEN, (ALL)	10.5
20	2-B) PARKING MGMT, (ALL) (2)	
21	2-C) VANPOOL PURCH INCEN, (ALL) (2)	
22	2-D) MERCH TRANSP INCEN, (ALL) (2)	
23	2-E) AUTO USE RESTRICTIONS, (ALL) (2)	
24	2-F) MOV FACILITIES, (ALL) (2)	
25	2-G) TRANSIT IMPROVEMENTS, (ALL) (2)	
26	E-2) LIVESTOCK WASTE, (ROG, PM)	10.1
27	* F-7) SOIL DECONTAMINATION, (ROG)	10
28	3-A) TRUCK DISP, RESC, BEROUT, (ALL)	9.8
29	3-B) DIRTY PORT TRAF TO RAIL, (ALL) (3)	
30	LOWER GAS VAP PRESS, (ROG)	8.9
31	14) RAILROAD ELECTRIF, (ALL)	8.9
32	C-2) I.C. ENGINES, (ALL)	8.8
33	* NEW DIESEL FUEL QUAL STD, (ROG, PM)	8.1
34	A-21) ADHESIVES, (ROG)	7.6
35	LOW ROG, NOX, CO MD & LMD TRKS, (ROG, NOX, CO)	7.3
=====		
36	4) TRAFFIC FLOW IMPROVE, (ALL)	6.4
37	A-16) PERC DRY CLEANING, (ROG)	6.1
38	B-11) OCS EXPLORATW., (ALL)	5.3
39	EMISS STD MD CONSTRUCT EQUIP, (ROG, NOX, PM, CO)	5.1
40	A-18) UNDERARM PRODUCTS, (ROG)	5
41	A-14) BLOWING FOAM, (ROG)	4.6
42	11) RAIL CONSOLIDATION, (ALL)	4.2
43	1-3) TUG FRM MARINE VESS INKS, (ROG)	3.9
44	E-1) PESTICIDE APPLICATION, (ROG)	3
45	C-3) CHARBROILING, (ROG, PM)	2.5
46	A-13) DISC MFG, (ROG)	2.5
47	MD VEH SMOKE ENFORCE, (ROG, NOX, PM)	2.4

* Adopted or Proposed Rules

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Ms Suzanne Reed, Special Projects Coordinator

-2-

October 27, 1988

7-28

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Associate Planner

Department of Community Development

TR:deb

att.

cc: Claremont Environmental Quality Commission

Glenn D. Southard, City Manager

Sharon Z. Wood, Director of Community Development

Anthony Witt, City Planner

1975 AQMP CONTROL MEASURES

ROG
REDUCTION
(1/D)

48	B-3) OPEN SUMPS, PITS,...	(ROG)	2.3
49	17) HIGH SPEED RAIL, (ALL)		2.2
50	A-15) SEMICONDUCTOR MFG, (ROG)		2
51	A-4) AEROSPACE, (ROG)		1.9
52	G-2) CLN FUEL RETRO TRAN BUS, (NOX, SOX, PM, ROG)		1.8
53	C-1) COMMERCIAL BAKERIES, (ROG)		1.8
54	ADD HD GAS VEN TO I/M, (ROG, NOX, CO)		1.5
55	D-1) STARTER FLUID, (ROG)		1.4
56	A-5) AUTO ASSEMBLY, (ROG)		1.2
57	S) NONRECURR CONG RELEIF, (ROG, CO)		1.1
58	A-17) PETRO DRY CLEANING, (ROG)		1
59	A-7) MARINE VESSELS, (ROG)		1
60	G-1) URB BHS SYS ELECTRIF, (ALL)		1
61	B) AIRPORT GRND ACCESS, (ROG, CO)		1
62	9) REPLACE HIGH EMITING AIRCRAFT, (ALL)		0.8
63	9-4) PLEASURE BOAT FUEL, (ROG)		0.7
64	A-3) CAN & COIL, (ROG)		0.5
65	B-2) GAS. TRANS: PHASE-2, (ROG)		0.4
66	10) AVIATION VAPOR RECOVERY, (ROG)		0.4
67	A-1) WOOD FLATSTOCK, (ROG)		0.4
68	A-9) PAPER, FABRIC, FILM, (ROG)		0.3
69	6) AIRCFT/GRND SERV VEN, (ROG, NOX, CO)		0.3
70	19.A) LOCAL GOV. EMERG CONSERVATION, (ALL)		0.3
71	19.B) WASTE RECYCLING, (ALL) (5)		
72	19.C) ENERGY PRICING, TAX, SUBS INCEN., (ALL) (5)		
73	7) CENTRALIZED GRND POWER SYS, (ROG, NOX)		0.1
74	B-5) CYCLIC STEAM PROD., (ROG)		0.1
75	D-3) POTW, (ROG)		0.1
76	D-2) OUT-OF-BASIN WASTE DISPOSAL, (ALL) (6)		0
77	F-9) LOW EMM. BUILDING CONST, (PM, ROG)		0
78	EVAP CONTROL/LARG CAN GAS VEN, (ROG)		0
79	1-6) SWITCHING LOCOMOTIVES, (ALL)		0
80	G-5) SMOKE VEN ENFORCE PRGM, (ROG, NOX, PM)		0

81	F-6) EXEMPT EQUIPMENT		0
82	F-5) AMMONIA EMISSIONS		0
83	EMISS STD OFF-ROAD MTRCLES, (ROG, CO)		0
84	F-11) EMM. MIM. MNGT. PLAN.		0
85	B-1) GAS TRANS: PHASE I, (ROG)		0
86	A-10) GRAPHIC ARTS, (ROG)		0
87	B-12) PETRO REFINRY FLARE, (ALL)		0
88	H-1) BAN NEW DRIVE THRU FAC, (ROG, NOX, CO)		0
89	G-4) CLN FUEL NEW FLT VEN, (ALL)		0
90	A-8b) ARCH COAT EMISS CHARGE, (ROG)		0
91	A-20) SOLVENT WASTES, (ROG)		0

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Ms Suzanne Reed, Special Projects Coordinator

-2-

October 27, 1988

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Glenn D. Southard, City Manager
Sharon Z. Wood, Director of Community Development
Anthony Witt, City Planner

48	B-14) OIL FIELD STEAM GEN, (NOx)	0.4
49	B-6) PIPELINE HEATERS, (NOx)	0.01
50	D-2) OUT-OF BASIN WASTE DISPOSAL, (ALL) (6)	0
51	D-5) RES. & COMM. WATER HEATING, (NOx)	0
52	B-12) PETRO REFINERY FLARE, (ALL)	0
53	G-4) CLM FUEL NEW FLT VEN, (ALL)	0
54	D-4) SWIMMING POOL WATER HEATING, (NOx)	0
55	G-5) SMOKE VEN ENFORCE PRGM, (ROG, NOx, PM)	0
56	F-6) EXEMPT EQUIPMENT	0
57	F-11) EMM. MIN. MGMT. PLAN.	0
58	H-1) BAW NEW DRIVE THRU FAC, (ROG, NOx, CO)	0
59	I-6) SWITCHING LOCOMOTIVES, (ALL)	0

1988 AQMP CONTROL MEASURES

PM
REDUCTION
(1/0)

1	12a) STORAGE & MOV. OF PM	223
2	12b) UNPAVED ROADS AND PARKING LOTS (4)	
3	F-4) CONSTRUCT ROADS/BUILDINGS, (PM)	146
4	C-6) WOODWORKING OPERATIONS, (PM)	35
5	F-8) NEW SOURCE REVIEW (ALL)	29
6	C-3) CHARBROILING, (ROG, PM)	10.1
7	F-1) INSTALLATION OF BARCT, (ALL)	7.8
8	3.A) TRUCK DISP, RESC, REROUT, (ALL)	6.7
9	3.B) DIVRT PORT TRAF TO RAIL, (ALL) (3)	
10	EMISS STD HD CONSTRUC EQUIP, (ROG, NOx, PM, CO)	5.6
11	* NEW DIESEL FUEL QUAL STD, (ROG, PM)	4.6
12	18) GROWTH MGMT, (ALL)	4.5
13	G-3) RADIAL TIRES ON LD MOTOR VEN, (PM)	3.4
14	1.A) ALT WRK WEEK/FLEETTIME, (ALL)	3.2
15	1.B) TELECOMMUNICATIONS, (ALL) (1)	
16	13) FREEWAY CAPAC ENHANCE, (ALL)	2.7
17	F-10) OIL PHASE OUT, (NOx, PM, SOx)	2.4
18	METHANOL FUELED BUSES, (NOx, SOx, PM)	2.3
19	B-9) REFINERY PROCESS HEATERS, (PM)	2.3
20	2.A) EMP RIDI SHR/TRANS INCEN, (ALL)	2
21	2.B) PARKING MGMT, (ALL) (2)	
22	2.C) VANPOOL PURCH INCEN, (ALL) (2)	
23	2.D) MERCH TRANSP INCEN, (ALL) (2)	
24	2.E) AUTO USE RESTRICTIONS, (ALL) (2)	
25	2.F) MOV FACILITIES, (ALL) (2)	
26	2.G) TRANSIT IMPROVEMTS, (ALL) (2)	
27	14) RAILROAD ELECTRIF, (ALL)	2
28	HD VEN SMOKE ENFORCE, (ROG, NOx, PM)	1.3
29	G-2) CLM FUEL RETRO TRAN BUS, (NOx, SOx, PM, ROG)	1.2
30	B-10) REFINERY FCC, (PM)	1.1
31	G-1) URB BUS SYS ELECTRIF, (ALL)	0.9
32	C-4) RUBBER PROD MFG, (ROG, PM)	0.7
33	11) RAIL CONSOLIDATION, (ALL)	0.7
34	C-2) I.C. ENGINES, (ALL)	0.7
35	E-2) LIVESTOCK WASTE, (ROG, PM)	0.4
36	17) HIGH SPEED RAIL, (ALL)	0.4
37	19.A) LOCAL GOV. ENRGY CONSERVATION, (ALL)	0.1
38	19.B) WASTE RECYCLING, (ALL) (5)	

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Ms Suzanne Reed, Special Projects Coordinator

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October 27, 1988

7-28

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39	19.C) ENERGY PRICING, TAX, SUBS INCEN., (ALL) (5)	
40	4) TRAFFIC FLOW IMPROVE, (ALL)	0.1
41	B-11) OCS EXPLORATH., (ALL)	0.1
42	LOW PM STD FOR HD & LHD DIESEL TRKS, (PM)	0.1
43	9) REPLACE HIGH EMITING AIRCRFT, (ALL)	0.1
44	D-2) OUT-OF-BASIN WASTE DISPOSAL, (ALL) (6)	0
45	I-6) SWITCHING LOCOMOTIVES, (ALL)	0
46	G-6) CLN FUEL NEW FLT VEH, (ALL)	0
47	G-5) SMOKE VEH ENFORCE PRGM, (NOX, NO _x , PM)	0
48	RETROFT PARTICLE TRAPS HD DIESEL BUSES, (PM)	0
49	F-9) LOW EMM. BUILDING CONST, (PM, ROG)	0
50	E-3) AGRICULTURAL DUST, (PM)	0

1988 AQMP CONTROL MEASURES

SO_x
REDUCTION
(T/D)

1	I-5) LIMIT SULFUR MARINE FUELS, (SO _x)	16.8
2	B-7) REFINERY FCC, (SO _x)	16.3
3	F-10) OIL PHASE OUT, (NO _x , PM, SO _x)	16
4	18) GROWTH MGMT, (ALL)	9.3
5	3.A) TRUCK DISP, RESC, REROUT, (ALL)	4.8
6	3.B) DIVRT PORT TRAP TO RAIL, (ALL) (3)	
7	F-3) LIMITS ON LIQUID FUELS, (SO _x)	4.5
8	15) FREEWAY CAPAC ENHANCE, (ALL)	4.5
9	1.A) ALT WRK WEEK/FLEXTIME, (ALL)	4.4
10	1.B) TELECOMMUNICATIONS, (ALL) (1)	
11	F-8) NEW SOURCE REVIEW, (ALL)	4
12	14) RAILROAD ELECTRIF, (ALL)	3.8
13	F-1) INSTALLATION OF BARCT, (ALL)	3.7
14	2.A) EMP RIDESHAR/TRANS INCEN, (ALL)	1.8
15	2.B) PARKING MGMT, (ALL) (2)	
16	2.C) CARPOOL PURCH INCEN, (ALL) (2)	
17	2.D) MERCH TRANSP INCEN, (ALL) (2)	
18	2.E) AUTO USE RESTRICTIONS, (ALL) (2)	
19	2.F) MOV FACILITIES, (ALL) (2)	
20	2.G) TRANSIT IMPROVEMNTS, (ALL) (2)	
21	METHANOL FUELED BUSES, (NO _x , SO _x , PM)	1.5
22	F-2) STDS ON GASEOUS FUELS, (SO _x)	1.4

23	11) RAIL CONSOLIDATION, (ALL)	1.3
24	4) TRAFFIC FLOW IMPROVE, (ALL)	0.9
25	G-2) CLN FUEL RETRO TRAN BUS, (NO _x , SO _x , PM, ROG)	0.8
26	C-2) I.C. ENGINES, (ALL)	0.7
27	17) HIGH SPEED RAIL, (ALL)	0.5
28	B-11) OCS EXPLORATH., (ALL)	0.5
29	9) REPLACE HIGH EMITING AIRCRFT, (ALL)	0.4
30	19.A) LOCAL GOV. EMEGY CONSERVATION, (ALL)	0.1
31	19.B) WASTE RECYCLING, (ALL) (5)	
32	19.C) ENERGY PRICING, TAX, SUBS INCEN., (ALL) (5)	
33	D-2) OUT-OF-BASIN WASTE DISPOSAL, (ALL) (6)	0
34	I-6) SWITCHING LOCOMOTIVES, (ALL)	0
35	B-8) PET. COKE CALCINIG, (SO _x)	0

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Ms Suzanne Reed, Special Projects Coordinator
October 27, 1988

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1988 AQMP CONTROL MEASURES

NOX
REDUCTION
(T/D)

1	LOWER NOX STD FOR GAS LDV'S, (NOX)	122.5
2	IMPROVED I/M FOR AUTO, LDV, MOI, (ROG, NOX, CO)	90.3
3	3.A) TRUCK DISP, RESC, REROUT, (ALL)	58.6
4	3.B) DIVRT PORT TRAF TO RAIL, (ALL) (3)	
5	14) RAILROAD ELECTRIF, (ALL)	34.9
6	18) GROWTH MGMT, (ALL)	33.4
7	F-8) NEW SOURCE REVIEW, (ALL)	33
8	LOW ROG, NOX, CO MD & LND TRKS, (ROG, NOX, CO)	31.2
9	C-2) I.C. ENGINES, (ALL)	30.3
10	C-10) UTILITY BOILERS, (NOX)	29.2
11	B-15) REFINRY HEATR/BOILER, (NOX)	25.5
12	1.A) ALL WKK WEEK/FLEETTIME, (ALL)	24.1
13	1.B) TELECOMMUNICATIONS, (ALL) (1)	
14	EMISS STD MD CONSTRUC EQUIP, (ROG, NOX, PM, CO)	22.8
15	C-9) STATIONARY GAS TURBINES, (NOX)	22.6
16	15) FREEWAY CAPAC ENHANCE, (ALL)	22.1
17	F-10) OIL PHASE OUT, (NOX, PM, SOX)	18.1
18	LOW NOX STD FOR MD DIESEL TRKS, (NOX)	16.2
19	C-8) INDUSTRIAL BOILERS, (NOX)	16.2
20	2.A) EMP RIDE SHR/TRANS INCEN, (ALL)	13.8
21	2.B) PARKING MGMT, (ALL) (2)	
22	2.C) VANPOOL PURCH INCEN, (ALL) (2)	
23	2.D) MERCH TRANSP INCEN, (ALL) (2)	

24	2.E) AUTO USE RESTRICTIONS, (ALL) (2)	
25	2.F) NOV FACILITIES, (ALL) (2)	
26	2.G) TRANSIT IMPROVEMNTS, (ALL) (2)	
27	11) RAIL CONSOLIDATION, (ALL)	10.9
28	METHANOL FUELED BUSES, (NOX, SOX, PM)	9.4
29	A-2) LOW EMISS NEW JET AIR ENG, (ROG, NOX, CO)	8.3
30	B-11) OCS EXPLORATION, (ALL)	8.1
31	19.A) LOCAL GOV. ENRGY CONSERVATION, (ALL)	7.1
32	19.B) WASTE RECYCLING, (ALL) (5)	
33	19.C) ENRGY PRICING, TAX, SUBS INCEN, (ALL) (5)	
34	MD VEH SMOKE ENFORCE, (ROG, NOX, PM)	6.3
35	G-1) URB BUS SYS ELECTRIF, (ALL)	6.2
36	9) REPLACE HIGH EMITING AIRCRAFT, (ALL)	5.8
37	G-2) CLN FUEL RETRO TRAN BUS, (NOX, SOX, PM, ROG)	4.9
38	I-1) SHIP BERTHING, (NOX)	4.7
39	F-1) INSTALLATION OF BARCT, (ALL)	4.1
40	17) HIGH SPEED RAIL, (ALL)	3.8
41	I-4) MARINE DIESEL OPER, (NOX)	3.6
42	6) AIRCRAFT/GRND SERV VEH, (ROG, NOX, CO)	2.6
43	C-7) SMALL BOILERS, (NOX)	2.6
44	C-5) AFTERBURNERS, (NOX)	2.5
45	4) TRAFFIC FLOW IMPROVE, (ALL)	1.5
46	7) CENTRALIZED GRND POWER SYS, (ROG, NOX)	0.6
47	ADD MD GAS VEH TO I/M, (ROG, NOX, CO)	0.5

000007

*Is Suzanne Reed, Special Projects Coordinator

-2-

October 27, 1988

7-28

Although in support of the need to improve the ambient air quality in the Basin, the EQC stresses the importance of more clearly identifying and quantifying the impacts of the plan. The EQC would like to offer the concerns and suggestions as outlined on the attached pages for serious consideration when revising the DEIR. If any questions should arise regarding these comments, please feel free to contact me at 714/399-5469. The city of Claremont looks forward to becoming more actively involved in the continued development of the plan and its environmental analysis. The city would appreciate being sent copies of the final documents.

Sincerely,

Tina Ryder

TINA RYDER

Associate Planner

Department of Community Development

TR:deb

att.

cc: Claremont Environmental Quality Commission
Glenn D. Southard, City Manager
Sharon Z. Wood, Director of Community Development
Anthony Witt, City Planner

1988 AQMP CONTROL MEASURES

CO
REDUCTION
(1/0)

1	1B) GROWTH MGMT, [ALL]	526.1
2	1.A) ALT WK WEEK/FLEXTIME, [ALL]	309
3	1.B) TELECOMMUNICATIONS, [ALL] (1)	
4	13) FREEWAY CAPAC ENHANCE, [ALL]	184.2
5	1-7) UTILITY EQUIPMENT, [ALL POLLUTANTS]	170.5
6	LOW ROG, NOX, CO MD B LND TRKS, [ROG, NOX, CO]	141.1
7	2.A) EMP RIDESHR/TRANS INCEN, [ALL]	139
8	2.B) PARKING MGMT, [ALL] (2)	
9	2.C) VANPOOL PURCH INCEN, [ALL] (2)	
10	2.D) MERCH TRANSP INCEN, [ALL] (2)	
11	2.E) AUTO USE RESTRICTIONS, [ALL] (2)	
12	2.F) MOV FACILITIES, [ALL] (2)	
13	2.G) TRANSIT IMPROVEMNTS, [ALL] (2)	
14	IMPROVED I/M FOR AUTO, LDT, MOT, [ROG, NOX, CO]	107
15	3.A) TRUCK DISP, RESC, REROUT, [ALL]	80.1
16	3.B) DIVRT PORT TRAF TO RAIL, [ALL] (2)	
17	4) TRAFFIC FLOW IMPROVE, [ALL]	79
18	EMISS STD HD CONSTRUC EQUIP, [ROG, NOX, PM, CO]	77.2
19	C-2) I.C. ENGINES, [ALL]	43.3
20	11) RAIL CONSOLIDATION, [ALL]	24.4

21	F-B) NEW SOURCE REVIEW [ALL]	21
22	1-2) LOW EMISS NEW JET AIR ENG, [ROG, NOX, CO]	19.1
23	5) NONRECURR COMG RELIEF, [ROG, CO]	18.9
24	B) AIRPORT GRND ACCESS, [ROG, CO]	17.3
25	14) RAILROAD ELECTRIF, [ALL]	16.2
26	17) HIGH SPEED RAIL, [ALL]	14
27	ADD HD GAS VEN TO I/M, [ROG, NOX, CO]	11.7
28	F-1) INSTALLATION OF BARCI, [ALL]	9.8
29	9) REPLACE HIGH EMITING AIRCFT, [ALL]	2.3
30	G-1) URB BUS SYS ELECTRIF, [ALL]	2.1
31	B-11) OCS EXPLORATH., [ALL]	1.9
32	6) AIRCRT/GRND SERV VEN, [ROG, NOX, CO]	1.4
33	19.A) LOCAL GOV. ENEGY CONSERVATION, [ALL]	1.3
34	19.B) WASTE RECYCLING, [ALL] (5)	
35	19.C) ENERGY PRICING, TAX, SUBS INCEN., [ALL] (5)	
36	D-2) CUT-OF-BASIN WASTE DISPOSAL, [ALL] (6)	0
37	H-1) BAN NEW DRIVE THRU FAC, [ROG, NOX, CO]	0
38	I-6) SWITCHING LOCOMOTIVES, [ALL]	0
39	G-4) CLM FUEL NEW FLT VEN, [ALL]	0
40	LOW ROG, CO STD FOR GLDV'S, [ROG, CO]	0
41	EMISS STD OFF-ROAD MIRCYCLES, [ROG, CO]	0

NOTE: THE CONTROL MEASURES WITH UNKNOWN AND/OR UNDETERMINED EMISSION REDUCTIONS WERE CONSIDERED TO BE ZERO FOR THE PURPOSE OF PRIORITIZING.

(1) THE EMISSION REDUCTION FOR THIS MEASURE IS INCORPORATED IN 1.A.

(2) THE EMISSION REDUCTION FOR THIS MEASURE IS INCORPORATED IN 2.A.

(3) THE EMISSION REDUCTION FOR THIS MEASURE IS INCORPORATED IN 3.A.

(4) THE EMISSION REDUCTION FOR THIS MEASURE IS INCORPORATED IN 12.A.

(5) THE EMISSION REDUCTION FOR THIS MEASURE IS INCORPORATED IN 19.A.

(6) THE EMISSION REDUCTION FOR THIS MEASURE HAS BEEN REVISED TO BE

000708

Ms Suzanne Reed, Special Projects Coordinator

October 27, 1983

7-28 Although in support of the need to improve the ambient air quality in the Basin, the EQC stresses the importance of more clearly identifying and quantifying the impacts of the plan. The EQC would like to offer the concerns and suggestions as outlined on the attached pages for serious consideration when revising the DEIR. If any questions should arise regarding these comments, please feel free to contact me at 714/399-5469. The city of Claremont looks forward to becoming more actively involved in the continued development of the plan and its environmental analysis. The city would appreciate being sent copies of the final documents.

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Tina Ryder

TINA RYDER
Associate Planner
Department of Community Development

TR:deb
att.

cc: Claremont Environmental Quality Commission
Glenn D. Southard, City Manager
Sharon Z. Wood, Director of Community Development
Anthony Witt, City Planner

TABLE B

TIER 1 ROG CONTROL MEASURES IN THE 1988 AQMP		EMIS. REDN. TONS/DAY	C/E \$/TON
1 *	A-02) WOOD FURNITURE, (ROG)	29.70	\$0
2	A-04) AEROSPACE, (ROG)	2.00	\$0
3	B-02) GAS. TRANS: PHASE-2, (ROG)	8.40	\$110
4	A-18) UNDERARM PRODUCTS, (ROG)	5.00	\$400
5	B-04) PLEASURE BOAT FUEL, (ROG)	0.70	\$1,200
6	E-1) PESTICIDE APPLICATION, (ROG)	3.00	\$1,300
7	A-11) CLEAN-UP SOLVENTS, (ROG)	11.00	\$1,500
8 *	LOW ROG, CO STD FOR GLDV'S, (ROG)	79.40	\$1,600
9	E-2) LIVESTOCK WASTE, (ROG)	10.10	\$1,800
10	I-3) FUG FRM MARINE VESS TNKS, (ROG)	3.90	\$1,800
11 *	A-07) MARINE VESSELS, (ROG)	1.00	\$2,000
12	A-17) PETRO DRY CLEANING, (ROG)	1.00	\$2,000
13	I-7) UTILITY EQUIPMENT, (ROG)	17.10	\$2,000
14 *	A-06) AUTO REFINISHING, (ROG)	42.30	\$2,100
15	A-14) BLOWING FOAM, (ROG)	4.60	\$2,100
16 *	A-15) SEMICONDUCTOR MFG, (ROG)	2.00	\$2,300
17	B-03) OPEN SUMPS, PITS, ..., (ROG)	2.20	\$2,900
18	A-13) DISC MFG, (ROG)	2.50	\$3,300
19	B-05) CYCLIC STEAM PROD., (ROG)	0.10	\$3,800
20	C-1) COMMERCIAL BAKERIES, (ROG)	1.80	\$4,400
21	A-09) PAPER, FABRIC, FILM, (ROG)	0.30	\$5,000
22 *	LOWER GAS VAP PRESS, (ROG)	8.90	\$5,200
23	C-4) RUBBER PROD MFG, (ROG)	11.70	\$5,600
24	A-16) PERC DRY CLEANING, (ROG)	6.10	\$7,200
25	A-12) METAL CLEAM & DEG, (ROG)	17.90	\$10,000
26	B-15) VALVES, PUMPS & COMPRESSORS, (ROG)	11.90	\$15,000
27	F-1) INSTALLATION OF BARCT, (ROG)	46.60	\$17,500
28 *	F-7) SOIL DECONTAMINATION, (ROG)	10.00	\$18,000
29	A-05) AUTO ASSEMBLY, (ROG)	1.20	\$19,000

+ ARB mobile source measures

* Adopted or Proposed Rules

TIER 1 NOX CONTROL MEASURES IN 1988 AQMP		NOX REDUCTION (T/D)	COST PER TON (\$/TON)
1	D-4) SWIMMING POOL WATER HEATING, (NOx)	?	SAVINGS
2	C-9) STATIONARY GAS TURBINES, (NOx)	22.6	\$3,500
3	B-16) OIL FIELD STEAM GEN, (NOx)	0.4	\$4,000
4	B-6) PIPELINE HEATERS, (NOx)	0.01	\$4,000
5	I-4) MARINE DIESEL OPER, (NOx)	3.6	\$5,400
6 *	C-8) INDUSTRIAL BOILERS, (NOx)	16.2	\$6,800
7	D-5) RES. & COMM. WATER HEATING, (NOx)	?	\$9,900
8 *	B-15) REFINRY HEATR/BOILR, (NOx)	25.5	\$12,700
9	C-7) SMALL BOILERS, (NOx)	2.6	\$24,000
10	F-1) INSTALLATION OF BARCT (NOx)	4.1	\$24,500
11	I-1) SHIP BERTHING, (NOx)	4.7	\$25,300
12	C-10) UTILITY BOILERS, (NOx)	29.2	\$25,700
13	C-5) AFTERBURNERS, (NOx)	2.5	\$62,200

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Is Suzanne Reed, Special Projects Coordinator
 2-
 October 27, 1988

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TINA RYDER
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cc: Claremont Environmental Quality Commission
 Glenn D. Southard, City Manager
 Sharon Z. Wood, Director of Community Development
 Anthony Witt, City Planner

TIER 1 PM CONTROL MEASURES IN THE 1988 AQMP		PM REDUCTION (T/D)	COST PER TON (\$/TON)
1	G-3) RADIAL TIRES ON LD MOTOR VEH, [PM]	3.4	SAVINGS
2	C-4) RUBBER PROD MFG, [PM]	0.7	\$2,500
3	F-4) CONSTRUCT ROADS/BUILDINGS, [PM]	146	\$4,650
4	F-1) INSTALLATION OF BARCT, [PM]	7.8	\$5,300
5	C-3) CHARBROILING, [ROG, PM]	10.1	\$6,200
6	B-9) REFINERY PROCESS HEATERS, [PM]	2.3	\$12,000
7	C-6) WOODWORKING OPERATIONS, [PM]	35	\$12,000
8	B-10) REFINERY FCC, [PM]	1.1	\$29,300
9	* NEW DIESEL FUEL QUAL STD, [ROG, PM]	4.6	\$65,000

* ARB mobile source measures

TIER 1 SOX 1988 AQMP CONTROL MEASURES		SOX REDUCTION (T/D)	COST PER TON REDUCED (T/D)
1	I-5) LIMIT SULFUR MARINE FUELS, [SOX]	16.8	\$3,000
2	F-1) INSTALLATION OF BARCT, [SOX]	3.7	\$18,300
3	F-2) STDS ON GASEOUS FUELS, [SOX]	1.4	\$20,000
4	F-3) LIMITS ON LIQUID FUELS, [SOX]	4.5	\$25,000
5	B-7) REFINERY FCC, [SOX]	16.3	\$30,000

* ARB mobile source measures

TIER 1 CONTROL MEASURES ** THAT REDUCE MULTIPLE POLLUTANTS IN THE 1988 AQMP		ROG	NOX	C/E ROG (\$/TON)	C/E NOX (\$/TON)
1	I-2) LOW EMISS NEW JET AIR ENG, [ROG, NOX]	11.30		\$800	
2	* ADD MD GAS VEH TO I/M, [ROG, NOX, CO]	1.50		\$2,300	
3	* LOW ROG, NOX, CO MD & LHD TRKS, [ROG, NOX, CO]		31.2		\$900
4	* IMPROVED I/M FOR AUTO, LDT, MDT, [ROG, NOX, CO]		90.3		\$3,240
5	C-2) I.C. ENGINES, [ALL]		30.3		\$14,000
6	B-11) OCS EXPLORATN., [ALL]		8.1		\$16,200
7	F-10) OIL PHASE OUT, [NOX, PM, SOX]		18.1		\$38,900

** Even though these control measures reduce several pollutants together, the costs are given in terms of the primary pollutant alone.

* ARB mobile source measures

000010



DEVELOPMENT SERVICES DEPARTMENT

303 WEST COMMONWEALTH AVENUE • FULLERTON, CALIFORNIA 92632

Telephone: (714) 738-6540

October 12, 1988

Dr. James Lents
Executive Officer
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

Re: Extension of the Public Comment for the
Draft 1988 Air Quality Management Plan/EIR

Dear Dr. Lents:

The City of Fullerton requests that the South Coast Air Quality Management District Governing Board extend the public comment period for the Draft 1988 Air Quality Management Plan and related Environmental Impact Report (SCH No. 88021022) to February 1, 1989. This request is based on the following facts:

1. Availability of Documents.

As of the date of this letter the complete "technical appendices" to the Draft AQMD are not available. Specifically, the Draft Regional Mobility Plan (Appendix IV-H) and Draft Growth Management Plan (Appendix IV-I) have not been formally released to the public. It is extremely difficult to make informed comment on the Draft Air Quality Management Plan when all of the documentation is not available.

2. Plan Implementation Cost Analysis.

An analysis of the local government cost implications for implementation of the Air Quality Management Plan Control Measures has yet to be effectuated. The City requires additional time to undertake a preliminary plan implementation cost analysis. Since local government is being called upon to share the burden of plan implementation, it seems only appropriate to allow sufficient time to carry out this endeavor.

3. Local Governmental Review Procedures.

In order to process and schedule City Council action on this matter, full documentation needs to be in hand, policy analysis developed and City Council action date set. To comply with State law notice requirements and local agenda review procedures, scheduling City Council action is impossible prior to the October 27, 1988 deadline. City Council action under the time review period currently allotted is equally confounded by the unavailability of the technical documents.

RESPONSES TO COMMENTS
CITY OF FULLERTON (10/12/88)
COMMENT LETTER #8

8-1

Your comment is noted. CEQA Section 15087 (c) permits public review periods ranging from 30 to 90 days with a standard 45-day public review period for most documents. To date the AQMP EIR has been available for comment a total of 104 days. The dates are as follows:

- a) September 12, 1988 to October 27, 1988 -- Initial 45-day review of the Draft AQMP EIR
- b) December 2, 1988 to December 16, 1988 -- 14-day review period for the December EIR
- c) December 19, 1988 to February 1, 1989 -- 45-day review for the December EIR

The public review and comment period for the AQMP EIR exceeds that required and allowed by the CEQA and EQA Guidelines. All AQMP documents were available during the initial 45-day comment period.

8-2

Please refer to the response for comment 8-1.

8-3

Please refer to the response for comment 8-1.

000011

October 10, 1988

Thank you for consideration of this request. If you have any questions, please contact Joel Rosen of my Staff at (714) 738-6554.

Sincerely,



F. Paul Dudley, Director
Development Services Department

FPD:JWR:ep

cc: William C. Winter, City Manager
Air Quality Management District Governing Board
Assemblyman Ross Johnson

000022

OCT 28 1988

CITY OF BUENA PARK



C A L I F O R N I A 9 0 6 2 2

6650 BEACH BOULEVARD P O BOX 5009, PHONE: AREA CODE (714) 521-9900

OFFICE OF THE CITY MANAGER
KEVIN O'ROURKE

October 26, 1988

Dr. James H. Lentz, PhD.
Executive Officer
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

Mr. Mark Pisano
Executive Director
Southern California Association of Governments
600 South Commonwealth Ave., Suite 100
Los Angeles, CA 90005

Subject: Final Comments on Path to Clean Air: Policy Proposals for 1988
Air Quality Management Plan Revision (AQMP)

Dear Sirs:

This is a follow-up letter to the comments submitted to you on Sept. 6, 1988. Our final comments are mostly based on the Transportation, Land Use & Energy Conservation Measures of the plan (referred to as Appendix IV-G dated September 1988). This appendix contains a substantial portion of the control measures that could become the responsibility of local governments.

COST IMPACT

It is evident that many of the requirements addressed by the plan will have far-reaching impacts on City and those who live, work, do business or recreate within the City. The first obvious impact is the costs of measures. Nowhere does the plan indicate where the additional funds to finance the implementation of the various requirements will come from. The City is expected to act within our own means, although District representatives have stated that they would be willing to consider lobbying for legislation to provide funding options.

Direct costs to local governments will be from formulation of required General Plan amendments, ordinances, regulations and policies, implementation of same and enforcement. Other direct costs will stem from improvements such as paving unpaved roads, maneuvering and storage areas; purchase of electric vehicles; and traffic flow improvements. Alternate

RESPONSES TO COMMENTS
CITY OF BUENA PARK (10/26/88)
COMMENT LETTER #9

- 9-1 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.
- 9-2 Increased costs of analysis and staffing for implementation and enforcement by local governments can be funded through raising user fees, such as developers' fees. Legislation to reimburse local governments for expenditures required as a result of the AQMP could be passed by the state legislature. If local governments are not fully reimbursed for these expenses, services provided voluntarily by local government may suffer.
- 9-3 Refer to the response for comment 9-2.

000013

The issue of inter-jurisdictional problems, such as loss of sales and differences in inter-jurisdictional conformance with control measures, cannot be fully resolved in this document because of the scope of issues and limitations of the Plan. However, the approach to resolve some of the problems will be to establish working groups or committees to review each control measure of the Plan, as it is brought forward for adoption and implementation. Specific methods and measures necessary to attain the goals of the Plan will have to be developed with local jurisdiction prior to adoption by the District. This goal will have to be accomplished by reducing levels of conflict between various governmental bodies. This approach has worked in other District Rule adoption procedures and, while it requires a great deal of coordination, the District believes it can be achieved with co-operation among concerned agencies.

In order to facilitate resolution of inter-jurisdictional problems, immediate or timely notification of the District once a conflict has been identified is highly recommended and some form of mediation procedure may be needed. Such action would necessitate early response to review and address the conflict. In some cases, a legislative action may be required to address the problem, and working within a committee would convey to the legislature a strong message that the conflict has been given appropriate scrutiny and should therefore be resolved by them.

Loss of transit service as a result of higher alternative fuel costs which cannot be covered by increased farebox revenues or operating subsidies is a potential indirect transportation impact which could stem from the proposed alternative fuel control measures. Routes with low ridership, many of them in suburban areas without a critical mass of riders, are most likely to be affected as they would require the highest subsidies relative to their impact on congestion and air pollution. Funding from businesses could encourage greater patronage of commuter or express buses, as could user fees and/or subscriptions from commuters. This could reduce the need to provide round-the-clock transit service. Otherwise, to ensure adequate bus service or other mass transit throughout the Basin will require development of specific funding mechanisms to ensure the alternative fuels measure can be fully and effectively implemented.

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

9-5

9-6

work week/flex time and telecommunication components of the plan will also result in direct costs.

An indirect cost of the plan may also be reduced sales at businesses and concomitant loss of sales tax revenue due to the requirements for elimination of all nonresidential free parking, and reduction in the amount of ordinance prescribed parking for other than residential uses. Unless these provisions are enforced by all jurisdictions simultaneously and effective transit is in place, staff would envision reduced sales. From the comments of OCTC and LACTC, there is reason to believe less busses would be running than presently due to expensive change over to new fuels required by the plan.

Our conclusions are that the requirements of the plan on local governments could not be accomplished without additional employees and substantial costs; and the ability for local governments to absorb these costs without additional revenues is questionable. How these requirements will influence and interfere with the current workings of the free market place is uncertain. However, no comprehensive cost/revenue analysis is contained within the plan to give assurance that these measures are financially feasible to institute.

IMPACT ON CONSTITUENTS/BUSINESSES/EMPLOYEES

Local jurisdictions are required to establish, implement, and enforce many programs which will change the life and work styles of those governed.

Through incentives or disincentives as an employer or city-wide regulation, local governments are to require trip reductions via car/van pools, transit use; alternate work weeks/flex time; telecommunication including requirement of satellite work centers; parking management; and growth management. These measures will require substantial change in established work hours, management practices, work locations, public and private costs and revenues, as well as limiting the ability of local governments to control land use decisions.

How these measures would be received by the general public is unknown. The political and economic feasibility of plan implementation appears to be questionable and is not adequately discussed by the plan. Due to time constraints, we have not had the opportunity to consult with businesses and major employers located in Buena Park about this aspect.

IMPACT OF JOB/HOUSING BALANCE

The Regional Growth Management Plan proposed to set targets for housing and employment growth for jurisdictions within the region to bring about a greater job housing balance by subregion. This would be done by shifting a certain percentage of future housing growth to job-rich jurisdictions, such as Buena Park, while at the same time, shifting a percentage of future employment growth to housing-rich but job-poor subregions. The proposed primary benefit for air quality is the reduction of long commute trips.

000024

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9-7 Financial feasibility depends on development of funding through new funding sources and allocating of funds through the local budgeting process. Please see Appendix F and the response to comment 9-2.

9-8 Your comment is noted and will be forward to the District Board for consideration in making its decision on the AQMP. As the Plan outlines, such changes are the only means of complying with all federal ambient air quality standards.

9-9 The DEIR notes on 4-7.1 that alternative work schedules and locations would create a demand for local work centers that may require general plan land use and zoning ordinance modifications. These land use adjustments would be most needed in "job-poor" subregions and in areas with significant numbers of "information workers" capable of telecommuting from a remote work station via telephone and computer links.

In addition, alternative work schedules, management practices, and work locations would result in longer operating hours for offices and commercial concerns, which could conflict with current local restrictions on hours of operation. Some residential and other sensitive land uses may require buffering from the effects of additional business-related traffic and work trips outside the hours of 8 a.m. to 6 p.m.

Local governments retain their full land use authority under the AQMP. The changes cited by the commentator will introduce new considerations in local planning and implementation, but will not limit freedom of action by local agencies. The District has been given authority over the control of indirect source emissions, for which a program has not yet been fully developed. Again, encroachment on local government police powers is specifically precluded in legislation authorizing control over indirect sources. The District will work with local governments to deal with changes in the workplace.

9-10 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Economic feasibility has been generally addressed in Appendix F, and it is not possible to draw any conclusions regarding political feasibility since doing so could result in speculation beyond available information.

000025

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IMPACT ON CONSTITUENTS/BUSINESSES/EMPLOYEES

Local jurisdictions are required to establish, implement, and enforce many programs which will change the life and work styles of those governed.

Through incentives or disincentives as an employer or city-wide regulation, local governments are to require trip reductions via car/van pools, transit use; alternate work weeks/flex time; telecommunication including requirement of satellite work centers; parking management; and growth management. These measures will require substantial change in established work hours, management practices, work locations, public and private costs and revenues, as well as limiting the ability of local governments to control land use decisions.

How these measures would be received by the general public is unknown. The political and economic feasibility of plan implementation appears to be questionable and is not adequately discussed by the plan. Due to time constraints, we have not had the opportunity to consult with businesses and major employers located in Buena Park about this aspect.

IMPACT OF JOB/HOUSING BALANCE

The Regional Growth Management Plan proposed to set targets for housing and employment growth for jurisdictions within the region to bring about a greater job housing balance by subregion. This would be done by shifting a certain percentage of future housing growth to job-rich jurisdictions, such as Buena Park, while at the same time, shifting a percentage of future employment growth to housing-rich but job-poor subregions. The proposed primary benefit for air quality is the reduction of long commute trips.

Dr. James M. Lentz, Ph.D.
Mr. Mark Pisano

October 26, 1988
Page Three

There are several disturbing issues in regard to this measure. The first is it establishes the ability of a regional board to set targets or caps on local growth. This board is not duly elected by the constituents of the region for this purpose. Secondly, many factors appear to determine where people live and work; and the mere presence of housing in closer proximity to jobs does not guarantee that commute distance will be reduced. Thirdly, the plan could lead to premature escalation of housing prices in the outlying subregions and thereby reduce the availability of the more affordable housing in the region. Finally, and most importantly, this contradicts the City's Economic Development Plan which is to generate commercial and industrial development, utilizing the tools of redevelopment.

Our opinion is that the concept of regional growth management needs considerably more research, discussion and consensus before being adopted as a component of a regional plan.

TRANSPORTATION MEASURES

The plan offered measures such as parking management, merchant transportation incentives, truck dispatching rescheduling and rerouting, traffic flow improvements, and unpaved roads and parking lots. They are areas of interest to us and they are within our means to implement. As an alternative to these measures, Buena Park has initiated signal coordination for traffic flow improvements and permit parking.

In closing, we believe there are some serious issues that need to be addressed and consensus reached before the plan is adopted. The time frame set forth for this consideration as well as the unavailability of reference documents is limiting our ability to give appropriate consideration to the plan. We understand that the District is anxious to adopt a plan in anticipation of an EPA plan which both the District and EPA feel will be mandated due to court action. However, we believe that it would be a mistake to adopt a plan which the local jurisdictions have not been able to adequately review and provide comment. If we were given more time, we would consult with the community-at-large and assess additional impacts this plan would have. This process could take between 6 - 9 months to reach all major business employers, a cross section of the residents and potential developers in the City.

Sincerely yours,


Kevin O'Rourke
City Manager

KOR:ch

cc: City Council
Orange County City Managers

9-13

Local governments retain their freedom for full land use authority under the AQMP. The changes cited by the commentor will introduce new considerations in local planning and implementation, but will not limit freedom of action by local agencies. The District has been given authority over the control of indirect source emissions, for which a program has not yet been fully developed. Again, encroachment on local government police powers is specifically precluded in that legislation. The District will work with local governments to deal with changes in the workplace. Your comment regarding elections is noted.

9-14

The Growth Management Control Measure will not change the calculus that individual wage-earners consider in making job and housing choices. Salary and advancement opportunities will continue to be major considerations, but the AQMP and supporting plans affect the cost and effort involved in commuting which is forecasted to begin to affect both employees' and employers' choices. Given employers' needs to comply with Regulation XV, availability of nearby housing will become important. At an aggregate level, the Growth Management Measure provides every reasonable incentive for workers to avoid increasingly costly, time-consuming commutes by providing a spectrum of housing opportunities within each subregion.

9-15

The impact noted could occur and residential land costs could rise in the urban portion of the region due to reduced projections for housing growth if local governments redesignate and rezone formerly residential land for job-generating land uses. However, this could stabilize as alternative housing options are available in coastal counties, thereby relieving demand for housing in outlying areas. In the meantime, developers and buyers could respond by favoring smaller units or more dense housing configurations in outlying areas. Please refer to the GMP (October 1988) Sections IV through VIII for additional detailed technical discussion of this issue.

9-16

Commercial and industrial development can continue under the jobs/housing balance. However, housing targets for a job-rich city such as Buena Park would become a new goal, and the city's Plan would be revised to incorporate this goal.

9-17

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

000027

There are several disturbing issues in regard to this measure. The first is it establishes the ability of a regional board to set targets or caps on local growth. This board is not duly elected by the constituents of the region for this purpose. Secondly, many factors appear to determine where people live and work; and the mere presence of housing in closer proximity to jobs does not guarantee that commute distance will be reduced. Thirdly, the plan could lead to premature escalation of housing prices in the outlying subregions and thereby reduce the availability of the more affordable housing in the region. Finally, and most importantly, this contradicts the City's Economic Development Plan which is to generate commercial and industrial development, utilizing the tools of redevelopment.

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Sincerely yours,



Kevin O'Rourke
City Manager

KOR:ch

cc: City Council
Orange County City Managers

9-18

The AQMP is intended to attain federal standards for criteria air pollutants. Each of the measures described in the Plan, including additional contingency measures, needs to be implemented if these standards are to be met. During future specific implementation of the measures identified, the compatibility of the city's efforts can be evaluated and compared to District measures.

9-19

Please refer to the response for comment 9-11.

0000018

OCT 17 1988

GEORGE DEUKMEJIAN Governor

DEPARTMENT OF TRANSPORTATION

DISTRICT 7, 120 SO. SPRING ST.

LOS ANGELES, CA 90012

TDD (213) 620-3550

(213) 620-5335

RESPONSES TO COMMENTS
CALTRANS DISTRICT 7 10/4/88
COMMENT LETTER #10

October 4, 1988

IGR/CEQA
Draft EIR for the 1988 Revision
to the Air Quality Management
Plan
SCH No. 88021022Mr. James M. Lents, Executive Officer
South Coast Air Quality Management District
9150 Flair Drive
El Monte, California 91731

Dear Mr. Lents:

CALTRANS has reviewed the above referenced project.

At this time, it appears that CALTRANS will not be a Responsible Agency for the proposed project.

Thank you for this opportunity to comment. If you have any questions, please call Kreig Larson at (213) 620-3755.

Sincerely,


JEFFERY C. BINGHAM, Chief
Environmental Planning Branch

10-1

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

000029

EXECUTIVE OFFICER
OFFICE of Planning and Management
State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

Alfred Fisher - District 12

Project Review Comments

SCH Number DEIR
88021022 Air Quality Management
SC Air Quality Management District

Caltrans has reviewed the DEIR for the Air Quality Management Plan and has the following comments.

Comments on the Draft EIR 1988 Air Quality Management Plan

Chapter 4 Page 4-1-33

Transportation System and Land Use

11-1

Limitation on registration is based upon an adequate multi-modal transportation system in place.

Reduction of vehicle registration by 5% seems somewhat doubtful due to the projections forecasted in the region in terms of nearly 5 to 6 million additional people in the next 20 years and a 42% increase in daily trips and work commutes. This would have to be integrated with other strategies mentioned in the plan such as the use of alternative modes, telecommuting, jobs/housing balance to achieve this reduction. Increasing fees and incentives for clean-fuel vehicles would not be sufficient to reduce registration of vehicles. More drivers are projected over the next 20 years who would use existing vehicles or purchase new vehicles.

Chapter 4 Page 4-12-11

Traffic Flow Improvements

11-2

On local streets or roads that are saturated including alternative modes by channelization and synchronization would be extremely difficult. The area has an inadequate grid system. It would be almost impossible to divert traffic to other streets which have insufficient capacity. This type of improvement would have to be integrated with land use measures.

Chapter 4 Page 4-12-15

Paved and Unpaved Roads and Parking Lots

Mitigation section mentioned paving and increasing parking lots.

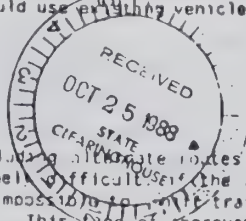
11-1

SCAQMD agrees that all the strategies mentioned in the plan would have to be integrated to achieve reduction in daily trips, VMT, and work commutes. Increasing fees and incentives for clean-fuel vehicles alone would not be sufficient.

11-2

As contained in the measures, channelization and synchronization are intended to increase the effective capacity of improved intersections. Hi-tech synchronization methods also allow much improved incident management. Traffic flow improvements should be coordinated with land use actions.

Land use impacts of transportation measures are detailed in Section 4-7, Land Use, and the transportation impacts of land use measures (jobs/housing balance) are discussed in Section 4-12. SCAG's GMA-4 Modified projection provides consistency among these measures. The GMA-4 Modified projection sets forth the amount, timing, and distribution of population, job, and housing growth for the future. Transportation improvements recommended in the Regional Mobility Plan are scaled to serve the populations, housing and job growth, and distribution projected in GMA-4. However, the phasing of transportation improvements relative to growth projections would play a major role in integrating transportation and land use measures. This would be accomplished by government agencies working through the planning and public review and comment process.



000020

11-3

conflict with measure 2-B Parking Management Controls. Those parking lots identified could be considered as a transfer point for auto-restricted zones or park and ride facilities. In the urbanized and rapidly urbanized areas in the south coast region, any unpaved parking lots or areas are being considered for future development such as commercial, or business parks near existing activity centers. This measure while decreasing particulate matter provides the region with the opportunity to mitigate trips and implementation of other transportation control measures beyond Regulation XV. Multi-modal Transportation Centers could be developed if parking lots were of sufficient size. This provides opportunity for expanding mitigation efforts to improve air quality.

Railroad Electrification

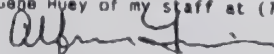
11-4

It was not clear if this measure includes not only freight movement but passenger service on those lines which have dual coverage if any.

11-5

In terms of pedestrian access in light commercial, business parks, sidewalks should be provided to encourage pedestrian traffic to mini malls, and other activity centers near their place of employment rather than taking their cars. This would decrease cold starts and work to other trips during the day.

Thank you for the opportunity to comment. If you have any Questions, please call Gene Huey of my staff at (714) 724-2076.



Alfred Fisher, Chief
Environmental Analysis Branch
Transportation District 12

cc: E. Evans - 12

11-3

The DEIR acknowledges that paving unpaved lots to control particulates could work at cross-purposes in some areas where parking demand is high and subject to parking management regulations. As further indicated in the DEIR, local land use planning and zoning can eliminate these potential conflicts before they are realized. Alternatively, local governments can insure that any new lots created in parking management zones as a result of paving for particulate control are reserved for carpools, park and ride lots, or other parking purposes that reinforce mode shift controls.

11-4

This measure calls for electrification of 90 percent of the railroad lines in the Basin using, regardless of its whether the lines are used for freight or passenger traffic both.

11-5

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

000021

Memorandum

To: State Clearinghouse
Office of Planning & Research
1400 10th Street
Sacramento, CA 95814

Date: October 10, 1988
File No.: 08-RIV-15-13.6
SCH# 88021022

Attention: John Keene

From: DEPARTMENT OF TRANSPORTATION
District 8

Subject: Draft Environmental Impact Report for the South Coast Air Quality
Management Plan

We have reviewed the above-referenced document and request consideration of the following comment:

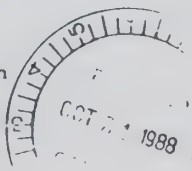
12-1 We would appreciate if the document could include the funding mechanisms and the status in the State Transportation Improvement Program (STIP) for facility improvements to the State Highway System such as capacity enhancements, rail, and the High Occupancy Vehicle Lanes.

12-2 We urge early and continuous liaison with Caltrans on proposed plans as they affect State highways.

If you have any questions, please contact Richard Malacoff at ATSS 670-4550 or 714-383-4550.

G. G. Visbal
GUY G. VISBAL
Chief, Transportation Planning Branch

RM:km
bcc: GSmith, Plan Coord Unit, DOTP



RESPONSES TO COMMENTS
CALTRANS DISTRICT 8 (10/30/88)
COMMENT LETTER #12

12-1 The RMP funding mechanisms are described in section 6 of the RMP (SCAG Oct., 1988) and in section 4-18 of the December EIR.

12-2 Many discussions have and will continue to take place with CALTRANS. The District agrees that good communication is essential for all organizations involved.

000022

NOV 1 1988

VICA

Valley Industry and Commerce Association

RESPONSES TO COMMENTS VALLEY INDUSTRY AND COMMERCE ASSOCIATION (10/31/88) COMMENT LETTER #13

October 31, 1988

Dr. James Lents
South Coast Air Quality
Management District
9150 Flair Drive
El Monte, CA 91731

Dear Doctor Lents,

Please direct our comments to the proper person in your operation. I had every intention of delivering these remarks myself but due to an important meeting that came up at the last minute found myself unable to be present at the Riverside Hearing.

Every meeting I attend or article I read is filled with concern about the reaches of the AQMP. People are certainly aware of the material and quite worried about how it will finally be implemented. I share those concerns too. Personally I fear that the stationary sources will be overly regulated, disturbed and some companies will leave the area leaving major economic gaps that will not be easily filled. The sad part is that there will be little or no change in the air quality. The other sources, mobile, especially, are the toughest and most expensive to tackle, as you well know, and they will take the longest to implement, if it's at all possible.

Whatever we can do to work out this serious imbalance would be of great interest to us. Please do not hesitate to contact me on behalf of my organization should there be any additional public comment periods.

Best wishes for the difficult task you've set out to accomplish.

Sincerely,

Bonny L. Matheson

Bonny L. Matheson
Executive Director

Enclosures

13-1

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

000023

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JACK MALONEY
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MILT MEISNER
Meisner Bros.
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ROBERT D. SELLECK
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KENNETH WORTHEN
Worthen Bros.
SKIP WRIGHTSON
Wrightson Bros.
STAFF
CHERI ROBINSON
SUE REEVES
RICK WINSMAN
PAST PRESIDENTS

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STAFF

HERI ROBINSON
Secretary

RICK WINSMAN
Past President

AQMD Public Hearing
Wednesday, October 26, 1988
Riverside, CA

Testimony given by Bonny Matheson
Executive Director
Valley Industry and Commerce Association
21800 Oxnard Street, Suite # 470
Woodland Hills, CA
(818) 888-2228

0000004

The Valley Industry and Commerce Association (VICA) is a 40 year old, not for profit regional business association made up of over 200 members with approximately 67,000 employees representing the San Fernando, Simi and Santa Clarita Valleys and northeast parts of Ventura County. Our original and current mission is to foster a balance of commerce, housing, recreation and community resources such as hospitals, courts, municipal services, cultural centers and recreation areas within our geographic region. We are constantly in touch with elected officials and other influential policy makers to effect such a balance. Our members are kept informed on current events and issues relating to our purpose to encourage their support and involvement. Our work is carried out in committees and the Board finalizes our policies and public positions on issues.

The AQM Plan was recently formally presented to our members by Dr. Lents and his staff at AQMD and that of SCAG; however, VICA members have been apprised of the Plan for many months.

13-2 First, VICA's overall reaction to the AQMP is that not enough cost analysis re-
 13-3 search has gone into it even though there are pounds of documentation, nor has there
 been enough time for the public to react to the Plan even though 30 days has recently
 been added to the schedule. Second, we have serious concerns about the assumptions
 used to develop the models for predicting the air quality of the basin over the next
 twenty years. Without having the opportunity to examine these sets of assumptions
 13-4 and comment on them, we do not feel as if we have had a real insight into the basic
 structure of the overall plan. We do not believe that the assumptions used were realistic.
 Based on what we see in the Plan, the assumptions were too high and do not take into ac-
 count the use of new technologies and processes that would be developed by businesses
 and industry in any event. They also do not seem to reflect the realities of the market-
 place and the probability that totally new products and services will be developed and
 become the mainstay of the marketplace in the next 20 years. Third, we feel there should

- 13-2 A more thorough cost analysis is addressed in the December, 1988 DEIR and in Appendix F which was also made available in December, 1988.
- 13-3 Please refer to the response for comment 9-11.
- 13-4 The assumptions used in developing the models to project air quality in the Basin were based on current available air quality modeling techniques along with their strengths and limitations. In view of these limitations, the District developed proposed new modeling approaches. Detailed discussions of the District's modeling methodology developments are located in the AQMP Appendices V-A through V-T. These documents are available for public review.
- 13-5 Please refer to the response for comment 3-44.

13-5 More attention paid to the mobile sources of emissions which more significantly affect our atmosphere than the stationary ones. If major efforts were made to curtail driving habits and allowing the oil industry to seek out alternate fuels that comply with emission standards rather than just being told to develop methanol, perhaps a more troublesome substitute, we might move more rapidly to solving our problems. It worked for the Olympics. Businesses may be more amenable to adjusting their driving and trucking schedules than leaving the Basin. More buses, taxis and a regional mass transit system could replace single passenger automobiles for the twice daily home to work commuter. (Please refer to the VICA testimony recently sent to SCAG on their Draft Regional Mobility Plan for our ideas on how we see solving part of the mobility problems.)

13-6 Fourth, we are concerned that the federal Clean Air Act may be passed by the end of this year; and if so could set different attainment standards thereby confusing, duplicating and delaying the progress of the local Plan. We would encourage your Board to delay adoption of the local AQMP until the federal plan has been decided.

13-7 Our next comment deals with the economic repercussions of the AQMP. We envision massive social and economic reactions that affect the lifestyles of all segments of California residents. So far, no impact reports have been done on the economic and social effects of the AQMP. We need to see more details on the job/housing balance recommendation, for example. These type of reports need to be done before any serious discussion of the implementation of the AQMP can take place. VICA members feel all decisions regarding air quality and the environment must be based on realistic tradeoffs between economic, social and environmental concerns. Some type of summit conference with public officials from the entire region will need to take place to determine what tradeoffs can be implemented in each of their constituencies with the least amount of upheaval. If the political will is not to implement the Plan, there is no future for it.

13-6 Because of the uncertain nature of future federal requirements, any changes which may be required to the AQMP are too speculative to consider at present.

13-7 The economic and social consequences of the AQMP have been quantified to the maximum extent possible and are addressed in Appendix F to the December, 1988 EIR.

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13-8 Industries may be forced to leave the basin if the plan is adopted as is. If they are forced to leave, they should go only after a careful economic and social impact study shows that on balance, the tradeoff is acceptable and that new jobs can be created for the people who will be coming to and born in this basin regardless of the AQMP. However, if a core industry such as aerospace, that forms the backbone of economic activity in the basin, cannot produce their product because of a restrictive environment policy and have no choice but to relocate elsewhere, all remaining industry and the area's economic health will suffer. Every aerospace dollar loss will be multiplied by other lost revenue in all sectors of the basin's economy. The ultimate effect could be greater unemployment with the social ills that it creates - increased welfare recipients, increased crime, loss of homes, dignity, etc. Further, some of the high costs to industrial manufacturers for control technology research and application will be added to the cost to consumer products from those companies. The AQMP includes provisions for a contingency plan to replace high polluting industries with low polluting ones. In most cases these would be service related businesses which typically provide lower wage scales than major industrial corporations. This will affect the local labor force by lowering their income and their ability to purchase goods. The economic spiral will begin a downward trend.

13-10 Concerns about equity are a major factor in our review of this Plan. It is clear to us that the burden of cleaning the air under the currently proposed Plan will fall most heavily on the poor, from increased utility bills to the loss of the lower paying jobs in the manufacturing sector. Jobs for higher skilled blue collar workers are also subject to change as for example, the aerospace and automobile companies who will be forced to relocate or expand elsewhere. It is important to remember that presently all of General Motors' competitors have halted manufacturing in the basin, yet they market their product here at better profit margins.

13-8

Please refer to responses in Comments 6-4 and 6-30. This issue is also addressed in Appendix F to the December, 1988 EIR.

13-9

Your comment is noted and will be forwarded to the Board. Also, please refer to the response for comment 13-7.

13-10

Your comment is noted and will be forwarded to the District Board before making its decision on the AQMP. Additionally, please refer to the responses to comment 6-4 and 6-30 as well as to Appendix F to the EIR which discusses the economic and social impacts of the AQMP.

000000

...generally larger employers, have for many years endeavored to meet ever-increasing air quality standards. They have done so through finding alternative technologies, installation of air pollution equipment and product substitution.

13-11 For some companies there isn't much more that can be done. For competitive reasons, any new developments in these areas would be done with or without the AQMP. We don't believe these companies, who have made honest, good faith efforts to reduce emissions, should be punished for the progress that they have already made. Some of our members have made it clear that any future expansions will be out of the area and that many of their suppliers and subcontractors have already left the area because they can't remain 13-12 most competitive under the present and anticipated heavy regulatory burdens.

We must realize that everything involves tradeoffs. No gain is made without some cost. Our challenge after much more research, study and thought is to identify all those tradeoffs and decide what we can afford. VICA members are willing to participate in those discussions to determine which tradeoffs to make if all the evidence is available to us on how the Plan was developed and what the economic and social consequences of the Plan will be.

13-13 Cleaning up the air in a geographic area that also has pre-existing atmospheric patterns that exacerbate the problem is difficult to begin with, and we commend all parties for their concerns and good intentions in this endeavor. Thank you for providing this opportunity to express our views. We hope you relay them to the appropriate sources and we are kept apprised of any activities that involve our concerns.

Please refer to the response for comment 2-114.

13-11

13-12

Section 4-1 in the December, 1988 EIR addresses air quality benefits, and Section 4-18 discusses their associated costs. The benefit cost analysis for other control measures for which data are unavailable will be evaluated during the rule-making process. The economic and social consequences of the AQMP have been quantified to the maximum extent possible and are addressed in Appendix F to the December, 1988 EIR.

13-13

Your comment is noted and will be forwarded to the District Board for their review.

000028

ARCO Products Company
Los Angeles Refinery
101 East Slausdell Boulevard
Inland Address Box 9210
Pomona, California 91769 6210
Telephone 213 816 8100

L. Smith
Refinery Manager

October 26, 1988

EEC 564-88
File 008-05



OCT 27 1988

RESPONSES TO COMMENTS
ARCO PRODUCTS COMPANY (10/26/88)
COMMENT LETTER #14

Dr. J. M. Lents
Executive Officer
South Coast Air Quality
Management District
9150 E. Flair Drive
El Monte, CA 91731

Re: AQMP, AQMP-EIR COMMENTS

Gentlemen:

ARCO Products Company - Los Angeles Refinery would like to provide comments on the 1988 Air Quality Management Plan (AQMP) and AQMP EIR. Comments will discuss timing, conceptual areas, EIR sections and proposed AQMP technical measures. We appreciate the opportunity to input and hope that our concerns will be answered. The AQMP is a massive step toward attainment but can only be successful with the acceptance of the impacted community and the public.

14-1

Refer to the response to comments 2-10, paragraph one, and 2-12. The Plan will be revised bi-annually.

14-1

Timing - We have serious concerns over the speed with which the Plan and EIR development were scheduled for adoption. While we understand that a Plan must be developed, many EIR sections are vague, and technical measures not sufficiently presented. The Tier I measures have insufficient information to evaluate the impacts, costs or benefits. Measure timeframes are technically unrealistic. Additionally, Tier II and Tier III are conceptual and have little background. We are asked to accept a plan which is incomplete past the next 5-7 years. Could the plan be developed in 5 year increments? Could the SCAQMD work with all Southern California interested parties and lobby for changes that would not mandate such a conceptual Plan for addressing this enormous twenty years effort?

Approveability - This AQMP will be reviewed by CARB and EPA. We wonder about the chances for plan approval when attainment is not shown. If attainment can be shown through various models, will the EPA accept the plan based on extremely vague measures in Tier II and Tier III? Can the plan be accepted when they are asked to rely on adoption of approximately 120 measures, advancement of existing and development of new technologies, and significant regulatory intervention?

Conceptual Concerns - We have attended several AQMP workshops and public meetings and have several concerns.

1. It has been related that the AQMP is a guidance document of measures that could enable us to meet federal standards. Ultimately we may need a few more steps or a few less. Because the plan requires significant public acceptance, city and county measures, lifestyle changes and advances in technology, what will be the order of implementation? Tier I is designated for the next few years. What if several Tier I measures prove unworkable or are adopted at levels below proposed reductions? Will we proceed to Tier II and Tier III? Will impacted industries be hit in excess of their rules to make up the shortfall? Similarly, significant changes are needed for Tier II and Tier III. What happens if these lifestyle, product use and regulatory changes cannot or are not made? Will we again tap tightly controlled sources for additional measures? Will we expect 90-100% reductions? Will all mobile, industrial, and commercial sources be stopped if there are shortfalls in other areas? If additional measures are needed will they be implemented by magnitude of emissions - e.g. mobile sources first? Will measures be implemented, as required by state law, in a cost-effectiveness ranking?

14-2

2. In several meetings SCAQMD and SCAG staff stressed that the AQMP and EIR are conceptual in nature, and, that we should accept the proposals, in concept. While we agree many proposed measures are conceptual we have concerns what will happen after the Plan is adopted. All measures then become part of the SIP, and significant changes are unlikely. What if we accept the Plan in concept, but find many future rules proposed as unworkable, technically infeasible or not cost-effective? It seems that the rules must clearly show feasibility, benefits and costs because it appears they will become "cast in concrete" once in the SIP.

14-2

Refer to the response to comment 14-1.

14-3

Your comment is noted and will be forwarded to the District Board for consideration in making their decision on the AQMP. Refer to the response to comment 3-46. The December, 1988 EIR has additional information on the Plan's benefits (pages 4-18-1 and 4-18-2), impacts, and mitigation of those impacts. For economic analysis of the Plans costs and benefits, refer to Appendix F of the December, 1988 EIR.

14-4

Additional mitigation measures are described in the December, 1988 EIR. Mitigation measures for stationary source controls can be enforced through the District's permit system. Appendix IV-G contains descriptions of the implementation of the Plan's transportation, land use, and energy conservation measures. SCAG's Regional Mobility Plan and Growth Management Plan also address these issues. The District plans to undertake a public education program in order to demonstrate the value and necessity of the Plan's measures to the community.

14-3

EIR Review - We have several questions regarding the EIR. Some are more general in nature others more specific. In overview, we are concerned about the quality of the EIR document. While EIR's will probably be prepared for many of the specific rules, this first AQMP EIR is still most significant. Conceptual aspects of the AQMP are addressed in general brief reviews. Impacts are generally listed but not defined. Mitigation measures are discussed but are brief, often vague or based on acceptance over which the District has no control. The methodologies for evaluation of measures, impacts, benefits and disbenefits needed to be adequately documented and presented. The Plan and EIR analysis, appear to be overly optimistic in benefits and acceptance and under-predict disbenefits, problems, disruptions.

14-4

1. Acceptability - As stated in the EIR, impacts of the AQMP will be broad in scope affecting individuals, business and industries. Based on this scope the EIR does little to address these broad impacts. Limited mitigation measures are proposed with no assurance that they will be implemented or are enforceable. The EIR goes on to state that there will be a need "to develop strong, enforceable public and private commitments", but no information on the mechanisms are provided to effect those personal changes. Will there be education? Training? For the

- next 20 years? Further, the EIR states that implementation of the AQMP will hasten economic trends"..... Shifts in types of business and industry will be made more rapidly and lifestyles of Basin residents are expected to evolve rapidly to meet the challenges of the 21st. Century". Will all of this be positive? As positive as the EIR depicts? Many of the changes needed are beyond the jurisdiction of the SCAQMD. How will these changes be implemented? What will happen if some or many measures are not accepted? Who will educate and inform the public?
- 14-5
- 14-6
2. Economics - As noted above, economic trends will be speeded, business cycles affected, economic decisions changed. Little data is given to the background assumptions and calculations for economic findings. The EIR notes recent growth in the manufacturing sector and rapid growth in the service sector. It appears that, though there will be disruptions and shifts, the EIR predicts little impact to the economy. We suspect large impacts on manufacturing jobs. The EIR notes possible growth in the pollution control industry, but surely the pollution control equipment could not be manufactured here for the same reasons other manufacturing fades. The EIR predicts continued large growth in the service sector. Who will they service? Manufacturing? Who will purchase these services? Socioeconomic impacts must be developed further.
- 14-6
- 14-7
- Positive and Negative Growth- Inducing Impacts (p. 8-1, 8-2) are examined. As noted, better air quality should result, and theoretically, if accomplished, urban growth better planned. Negative Impacts list serious economic, growth, employment, mobility, personal choice and disruptive impacts. Much more analysis and definition should be given to these broad, serious impacts. The listed negative impacts appear to be more definitive than those positive impacts. Please provide definition/basis for the negative trends. Additionally, all
- 14-5 Refer to the responses to comments 4-4 and 2-10.
- 14-6 Refer to Appendix F to the December, 1988 EIR. The installation and maintenance of pollution control equipment, as well as its manufacture in the Basin, will provide an economic stimulus. If the pollution control industry is subject to the control measures that the District has identified, it will be treated the same as other industries subject to these control measures.
- 14-7 Refer to Appendix F of the December, 1988 EIR.

14-8 economic discussions are in relation to the AQMP only. How does this fit with local, regional, state, federal, and world economic trends? Tier II and III will have much broader economic impacts than those projected for just this Basin. These measures must be projected to the real world.

14-9 3. Alternatives, Areas of Controversy - Little information is given on alternatives. Are there other alternatives beyond the traditional ones briefly listed? What of different implementation order? Mobile sources only? Shouldn't synergistic impacts and regulatory changes be considered? The four alternatives posed seem simplistic.

14-10 Areas of controversy also seem cursory. With the broad impacts of the AQMP it seems that more than two pages are necessary. To improve chances of AQMP acceptability, the public and impacted parties must be apprised of impacts. Thorough analysis of hard choices and controversy must be provided. Broad, detailed mitigations must also be proposed.

14-11 4. Other Regulatory Impacts - Little discussion is given on cross-regulatory impacts. Brief discussions are provided for water, waste and land usage. The AQMP measures will not be implemented in a vacuum.

14-12 What will be the net effect on water usage and wastewater generated? Do the numbers exist? Have they been checked by water suppliers, the RWQCB and the CSD? No quantitative consideration has been given to hazardous waste generation. This is a highly significant problem locally, state and federally. Many measures will require catalysts and scrubbers. Estimates of generated wastes must be given. Further, mitigations and cost impacts of waste management and disposal must be covered by the EIR.

14-8 It is estimated that the Basin's economy will grow from \$387 billion in 1987 to \$929 billion in 2010, an increase of 140%. With Tier I stationary controls, the increase would be 138% (oral testimony of Jane Hall, Ph.D., at the December 16, 1988 District Board hearing). Examining the economic impact of the Plan outside the Basin is beyond the scope of the EIR and would be speculative.

14-9 Refer to Attachment 1 of this Addendum for a discussion of alternatives to the Plan.

14-10 Your comment is noted. The discussion of areas of controversy has been expanded in the December, 1988 EIR. Refer to Attachment 8 for further description of mitigation measures.

14-11 Refer to the response to comment 2-10. Refer also to attachment 8 to this Addendum for further description of mitigation measures. Environmental impacts of the Plan would be regulated by the appropriate public agencies, just as they would regulate the impacts from any other source.

14-12 Water demands for the Basin are addressed in Chapter 3 - Existing and Forecast Setting in the Basin. As indicated in this section, projected water demands will increase substantially in the future. In 1987, total water consumption within the Basin was slightly over 3 million acre feet. By the year 2010, the projected water demand will increase to 3.9 million acre feet. The increase in water consumption is due in part to a population increase of 43 percent.

In the year 2010, an estimated 16.1 million people will be residing in the Basin. Assuming four people constitutes one household with a daily water consumption of 333 gallons, a water supply of 1.5 million acre feet is needed to meet the increased population water demand. This residential water demand represents 39 percent of the total water demand as projected by MWD. The remaining 69 percent comprises the water demand for commercial, industrial, and agricultural purposes.

Presently, due to the low annual rainfall in the Basin over half of the water supply is imported. The imported water which represents the dependable supply (i.e. ground water replenishment) will be reduced, due to curtailments or reductions to imported supply such as:

Delays in completion of the State Water Project having an adverse effect on MWD, the Project's largest contractor;

Significant reduction in California's allocation of water from the Colorado River; and,

Potential shortages to the City of Los Angeles from reductions in the Owens Valley and Mono Basin sources crating a void MWD would have to fill, further straining the dependable supply.

To offset the reductions of imported water supplies, there are a number of available water management strategies, if implemented, which could resolve the potential problems if implemented. These strategies, addressed below, include development of additional imported supplies, optimization of local supplies and additional reliance on supplemental supplies from reclamation, desalination and water conservation.

Strategies involving additional State Water Project capacity including augmentation by the Central Valley Project, development of Delta transfer facilities, development of surface storage facilities, wider utilization of groundwater basins, and water marketing to provide for broader purchase and transfers of water rights between areas and individuals;

Short-term strategies for increased Colorado River involving California's being able to divert more than 4.4 million acre feet, its annual appropriation in the next decade with MWD receiving all excess water;

Long-term strategies for Colorado River water involving more efficient use of the allotment through large scale conservation and exchange measures; and,

An aggressive program should be organized to protect groundwater quality in cooperation with all Federal, State, and County regulatory bodies (Water Development, 1986).Refer to the response to comment 2-98.

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14-13

What are the health impacts? Will these measures increase or decrease SARA III Chemicals? Prop 65 materials? Will there be increased or decreased exposure in hazardous materials? Further, little discussion is given to safety. Many technologies listed in Tier I are new and not yet considered safe by other regulatory agencies. Tier II and Tier III requiring new, advanced, development technology will pose new safety concerns. How will safety be balanced with the need for the measure? Section 4-9, Risk of Upset deals briefly with a few known technologies. How often will risks be checked for advanced or new technology?

14-13

The potential for significant health impacts from undefined control technologies exists and must be addressed when such strategies and technologies are ready for implementation in the future. When adequately defined, the health issues can be fully evaluated; impacts determined; and a decision on consistency with health codes can be made. If a particular strategy or technology proves too risky, it can be rejected by the District Board and supplanted by other contingency measures.

14-14

Refer to Appendix IV-D for the methodology used in control cost estimates. Refer to Appendix F to the December, 1988 EIR for a discussion of the Plan's overall costs and benefits.

14-15

More detailed analysis of technical parameters and costs of control measures will be undertaken at the time of rule development. The AQMP will be revised bi-annually in order to incorporate technological developments and other changes. If an AQMP control measure becomes part of the SIP and is subsequently found to be based on inaccurate assumptions which make the control measure infeasible, it would not be implemented. In its place, other control measures would have to be made more stringent in order to achieve the same emission goals.

14-14

5. Costs - Total costs of AQMP Control in millions of dollars per year are shown in Table 4-18.1. Little discussion is provided on how costs were developed. The AQMP also provides little discussion on the need for reasonable cost-effectiveness. Rather, it is assumed that every measure conceivable at this time, plus new ones to be developed are needed for attainment. Cost-effectiveness is minimally discussed. Is there a cost-effectiveness target? Estimate? Cap?

What assumptions are used for costs? What key capital parameters are used? What is the basis? Vendor quotes? Surely costs listed in Table 4-18.1 are estimates. What is an expected range both upwards and downwards? The EIR proposes that costs are small compared to the Basin economy and compared to air quality benefits. Does the impact change with serious economic consequences brought on by the AQMP? Will some sectors be hurt more than others? Which areas? Public and impacted party acceptance is largely based on costs and benefits. This section must be expanded and assumptions shown.

14-15

Technical - We have concerns with several technical measures proposed which affect our operations. In general, we believe the measure write-ups are brief and do not present key assumptions. Control, cost ranges are shown but no attempt is made to discuss cost development.

14-15
cont

Are these from vendor quotes? Estimates? What is the range, both up and down? In most measures several technologies are discussed. Do these match the range of costs? In many cases the majority of technologies discussed will not reach the level of control desired e.g. 80-95% control. In most write-ups only the most stringent technology approaches the desired control level. Why isn't this discussed? In some cases a combination of technologies will be needed to meet the desired level. Are those factored into the costs? It appears the write-ups over-predict technological possibilities and under-predict costs. Without background this cannot be evaluated. When these measures are in the SIP and we find that key assumptions are inaccurate, how will changes be made? Following are brief comments and questions on several measures.

B-7 Control of Emissions From FCC's (SOx)

14-16

We seriously question the need and magnitude of this rule when the Basin is in compliance with federal SO₂ standards. While this rule may be linked to sulfate, visibility or acid rain, we question the use of an additional 90% reduction in FCC SOx for attacking the concern. Rule 1105 has effectively reduced SOx from these sources. At the time of Rule 1105 adoption, the District made reference that this would be the principal, last measure for FCC SOx. Refiners picked technologies based on this rule. An additional 90% reduction is a radical increase. The technologies mentioned, scrubbers, catalyst and desulfurization, have not been demonstrated at these levels. Costs seem far too low for this level of control. What will be the impacts of hazardous waste from scrubbers and catalysts?

B-9 Control of Emissions from Heaters (PM)

14-17

The write-up indicates 2.6 tons per day of particulate matter from gas fired heaters. This seems unrealistically high. Were factors used or source test data? It is also noted that 92% of

14-16

Additional SOx controls are needed to prevent significant deterioration of the Basin's air quality with respect to SOx. Detailed analysis of technologies and costs will be made at time of rule development, in order to ensure that these technologies are economically feasible. Other technologies demonstrating equivalent compliance would be acceptable. For hazardous waste impacts, refer to the response to comment 2-13.

14-17

Emission factors, developed from source tests of equipment, in conjunction with activity information, provided by individual companies when they file their emissions fees forms, are used to estimate the emissions from point sources. The estimate of the percentage of particulate matter originating from process heaters with diameters less than 2.5 microns was provided in an Environmental Quality Laboratory report cited in the control measure (Gray, 1986) and (KVB, 1979). Source test data were used for this estimate. Only primary particles were included in the estimate.

14-17
cont

PM have diameters less than 2.5 u. How was this obtained? Is this primary particles or secondary from NOx and SOx?

Have the controls been tried in practice? Are they effective on the types of heaters in the basin? We question if the low control costs are accurate for the required technology. Is this the cost for baghouses or ESP's, and auxiliary systems?

B-10 Improved Control from FCC's (PM)

14-18

This rule proposes to reduce FCC particulate emissions by 90%, through further use of ESP's. This would be a cut from Rule 404, 30 pounds per hour, to 3 pounds per hour. It is doubtful that any ESP can achieve this level. Is there data to support this reduction? Can this be guaranteed? Can it be measured by source tests? Redundant systems will be needed to approach these levels. What is included in the costs?

B-12 Control of Emissions From Refinery Flares

14-19

This proposal is tied to a two step process to control flare emissions. First, is monitoring the magnitude of flare rates. This program started in late 1987. This monitoring will provide both the District and refineries with information on flare emissions. We have taken numerous steps over the years to reduce flaring. Many cost-effective and technologically feasible projects have been implemented to save refinery gases. After these efforts, the flare still must receive relief gases from emergency, over-pressure situations. Data indicates that flares are extremely efficient at reducing gases to routine combustion products. Any attempt to restrict these relief systems would pose serious safety problems. Data on flare amounts and combustion efficiencies must be obtained and provided prior to any rule evaluation.

4-18

Your comment is noted. The control measure would not require any specific technology. Rather, it is the emission limit which must be met. It is the responsibility of the emissions source to meet this limit, with any technology or combination of technologies available. Hydrotreating of high-sulfur petroleum feed stock and the use of redundant systems are examples of such approaches. Cost of control would vary depending on the specific approach chosen. The major types of particulate control equipment are described below.

Baghouses/Fabric Filters/HEPA Filters

Fibrous or fabric filter media formed into cylindrical sleeves or bags are the most widely used type of dry-particle collector for air cleaning (Lippmann and Schlesinger, 1979). Baghouses (the structure supporting the filter) remove solid particulate contaminants from gas streams by filtering them through a fabric media generally a woven or felted material. A number of different types of filters may be used within a baghouse depending upon the particular source. A pre-filter is used prior to the use of baghouse filters to remove the largest particles. The type of filter used depends on the chemical composition of the gases to be controlled. The number of filters housed in a baghouse varies from a few to several thousand depending upon the needs of the particular operation.

The contaminated gas stream passes through these filters and the particles are collected on the upstream side by the filtering action of the fiber. The particles collect on these fibers and form a dust cake which must be removed for disposal periodically. The bags are often compartmentalized so that one can be cleaned while the others are still being used. The fabric filters contained in the baghouses can provide high collection efficiencies for particulates as small as 0.5 um and will also remove a large portion of those particles as small as 0.01 of a micron.

Generally, baghouses are identified by the method that is used to remove the particulate material from the bag. The material can be blown from the bag (reverse air), shaken (shaker type) or released by expanding the bag with compressed air (pulse jet). The effectiveness of these devices for controlling particulate emissions is typically 98 percent or more depending on the process being controlled.

14-17
cont

14-18

B-12 Control of Emissions From Refinery Flares

14-19

(8)

Another commonly used control device for particulates, especially hexavalent chromium from chrome plating plants, is a de-mister (also referred to as a mist eliminator). These devices are "impaction" collectors that place barriers in the path of the mist particulates in the flowing gas. These barriers intercept the particulates and remove them from the gas stream.

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14-17
cont

PM have diameters less than 2.5 u. How was this obtained? Is this primary particles or secondary from NOx and SOx?

Have the controls been tried in practice? Are they effective on the types of heaters in the basin? We question if the low control costs are accurate for the required technology. Is this the cost for baghouses or ESP's, and auxiliary systems?

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14-18

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The most common mist eliminator is a chevron de-mister. This device consists of a series of maze-like channels through which the mist flow is directed. Particles that are too large to continue the sudden change in direction adhere to the walls and remain there. The collected materials are then drained away to a sump.

A de-mister is often used as part of a packed scrubbing device to increase its efficiency in removing fine particulate matter. The packed scrubber is continuously flushed by recirculating water flowing either counter- or cross-current to the gas stream. Some of the water is introduced to the gas stream before the packing as a fine spray. These particles then impinge on and collect the larger mist particles. The de-mister is added onto the scrubber to capture any additional fine particulates that may leave the device in the exhaust gas. These control devices have achieved reduction efficiencies of 99 to 99.8 percent at several types of sources having sub-micron particle emissions (ARB, 1988).14-19 Your comment is noted. During rule development, detailed data, such as that on flare amounts and combustion efficiency, will be obtained and analyzed.

14-19

Your comment is noted. During rule development, detailed data, such as that on flare amounts and combustion efficiency, will be obtained and analyzed.

B-13 Further Reductions from Fugitive Sources (ROG)

14-20 While we support cost effective measures to control ROG and reduce ozone, two significantly different programs are discussed in the proposal. First, a rapid retrofit to "leakless" equipment is posed. While development has begun on low leakage fugitive equipment, bellows valves, canned pumps, dual seals, enclosed compressors, the equipment is far from the full retrofit stage. Currently, this equipment is available for only a small percentage of components. Costs for equipment, capital cost maintenance and repair is far higher than for conventional equipment. This retrofit switch in the three years mentioned is unrealistic. It also cannot be done at the costs shown in the measure, \$15,000/ton.

14-21 We could support in concept, greater self-enforcement. This allows an operator to emphasize certain areas of higher leakage potential. These efforts are far more cost-effective and efficient. The "leak is a violation" concept moves self-enforcement to a punitive level. This step would require operators to spend great time and money checking equipment on a statistical, exposure basis rather than on an efficient emission reduction program. With the numbers of valves, flanges, pumps, compressors and relief valves, even with an excellent inspection program, it is statistically inconceivable that there will be no leaks.

B-15 Control of Emissions from Refinery Heaters & Boilers- (NOx)

These measures are no longer AQMP proposals but of course now adopted as Rule 1109 and 1146. As related in testimony during these rules, several serious concerns are posed. The combinations of controls required to meet the low level in Rule 1109 have never been demonstrated. Can they be met or guaranteed

- 14-20 Your comment is noted. Detailed evaluation of control devices, efficiencies, and costs will be undertaken at the time of rule development.
- 14-21 Your comment is noted. Alternative leak reduction approaches will be evaluated in detail during rule development.

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14-22

in long term day to day operation? Costs appeared to be far higher than District/vendor quotes. And, we believe modeling exists which shows disbenefit in the relation of NOx control versus ozone reduction. Ammonia will be released and hazardous waste generated from SCR systems. While the rule will push toward significant control of NOx there are several distinct disadvantages. Our concern is that if this rule is an example of impacts associated with a rule, what will be the impact of many other AQMP measures? The EIR does not address cumulative negative impacts.

F-1 Installation of Best Available Retrofit Control Technology

14-23

This AQMP measure mandates the installation of Retrofit Control Technology. The District has proposed three alternatives for implementing retrofit equipment. We would support Alternative 1, where BARCT by equipment category is developed over various reasonable timeframes. The development must include industry, who has experience with technologies and ultimately must operate with the equipment. It must be pointed out again that costs seem unrealistically low for this rule. Again, no mention of calculations, assumptions or timeframes are provided. With the difficulty of retrofit, space, downtime, safety, new technologies, we question if \$5,000 - \$24,000 for all pollutants in retrofit situations is representative.

F-8 New Source Review

The District has already proposed a rule to address changes to New Source Review. Our detailed comments have been given throughout the rule 224 development. Generally though, the proposed rule attempts to rectify a few small problems with Regulation 13, by a significant change in stringency and

4-22

Your comment is noted. As you note, this control measure has already been adopted as District Rule 1109. The Rule 1109 EIR addressed the environmental impacts you raise. For a discussion of the relationship between NOx control and ozone formation, refer to Attachment 2 of this Addendum. For a discussion of the impacts of ammonia use in NOx control, refer to Attachment 3. For a discussion of hazardous waste impacts, see the response to comment # 2-13. Cumulative negative environmental impacts are addressed on pp 6-20 through 6-22 of the December, 1988 EIR.

4-23

Your comment is noted. Detailed cost analysis of this control measure will be performed during rule development. Industry will have an opportunity to participate in the rule-making process.

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philosophy. Rule 224 makes drastic changes on how one applies and who ultimately receives permits. We have attended several of the rule 224 work shops and have noted serious comments on the rule from nearly every industrial and public sector. We would support the alternative proposed by the L.A. Chamber of Commerce.

Tier II and Tier III

Due to the conceptual, tentative nature of Tier II and Tier III measures it is difficult to comment. Some general concerns are (1) the chances of success may be diminished since many measures must be adopted by cities and counties and (2) lack of legislative and regulatory authority to proceed with many other measures. Many Tier II issues begin to pose serious manufacturing problems and demand changes in personal choices and lifestyles. Proposals for new products and fuels will be extremely difficult to adopt and implement. With these difficulties, we hope that the District will work for local government, public and impacted community support for these measures.

Several items mentioned in Tier II and Tier III are minimally covered in the EIR but have far-reaching effects. Shouldn't discussions be given to the emission taxes, impacts from S.B. 151, transportation measures, etc. Far more discussion needs to be given for the use of methanol for Southern California fuel use.

14-24

Refer to the response to comment # 2-10. Assessment of potential manufacturing problems and changes in personal choices and lifestyles as a result of the implementation of new technologies would be speculative at this point. These issues will be addressed as the technologies become available and rules are developed for their implementation.

14-25

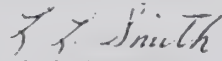
Detailed discussion of the environmental impacts of technology not yet developed or commercialized, would, at this point, be speculative. The AQMP will be revised bi-annually, allowing a continual re-evaluation of technologies and their environmental impacts. For a discussion of the environmental impacts of methanol use, refer to Attachment 6 of this Addendum.

14-24

14-25

These pages cover the majority of our conceptual, procedural and technical AQMP and AQMP-EIR comments. We hope you will answer questions posed and expand necessary sections on these comments as well as all others received. This massive conceptual step toward attainment is based on public, private and personal acceptance. Gaining this acceptance will require a clear presentation of benefits, risks, impacts and alternatives. Thank you for reviewing and addressing these comments. If you have any questions please contact Mr. P. L. Avery at (213) 816-8742.

Very truly yours,



L. L. Smith

PLA/mhj

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OCT 17 1988

RESPONSES TO COMMENTS
BLUE DIAMOND MATERIALS (10/11/88)
COMMENT LETTER #15

October 11, 1988

Ms. Suzanne Reed
Special Projects Coordinator
South Coast AQMD
9150 Flair Dr.
El Monte, CA 91731

RE: Draft 1988 Air Quality Management Plan
and Draft Environmental Impact Report

Dear Ms. Reed:

I have carefully read both the Draft 1988 AQMP and Draft EIR and I believe that these documents give a good statement of the problem and a great "wish list" of possible steps to a solution. So many issues are raised by them that I hardly know where to begin.

15-1 First, the greatest difficulty in solving the combined emission - weather concerns in the basin is left not addressed. This is the fact - repeat fact - that each individual in the basin must change some facet of his life if the goal of air meeting NAAQS is to be obtained. This fact has not been presented effectively to the public. The public has never had a chance to vote its priorities - e.g. Is "Clean Air" more important than the freedom to drive an individual automobile where I want, when I want? Is "Clean Air" more important than my personal high wage industrial job? Is "Clean Air" so important that the total population of the basin must be limited - to perhaps less than are living here now - including a mechanism for forcibly removing the couple who has one baby too many?

The choices are not easy. Most of those who immigrated to the basin from other states "voted with their feet". A good job with smog was preferable to clean air with no job. Smog was preferable to very cold weather.

15-2 Until the public has an opportunity to vote on its priorities - with clearly stated issues demanding individual participation - the AQMP is "Big Brother Knows Best". The way the plan must be presented, in my judgement, is for all public officials - specifically the governor, the president pro-tem of the Senate, the speaker of the Assembly, each individual supervisor of all four counties, the mayor and each councilman of every city - loudly telling all within hearing that it is absolutely necessary for each individual to change his lifestyle. Not "the other guy" but "me". Absent this type of high level sales campaign you are reduced to hiring policemen - and I don't believe you can hire enough policemen to enforce an unpopular law.

- 15-1 Chapter 3 of the December, 1988 EIR for the AQMP discussed how weather affects the air quality in the Basin. A brief discussion is also provided in Section 2 of the Executive Summary which is part of this Addendum under separate cover.
- 15-2 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Also, please refer to the response for comment 2-10.

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- 15-3 Some very major areas are not well addressed. First of these is funding for the transportation related issues. According to the L. A. County Transportation Commission staff capitol cost of these transportation proposals would require \$37.2 billion over nine years while \$6.9 billion is accounted for with existing funding sources. Simply wishing that the federal or state governments will supply the funds won't "make it happen". Realism requires the assessment that the vast majority of these funds must be generated within the basin. How? - bonds? special gas taxes? special real estate taxes? special sales taxes? The source of these funds must be specifically identified.
- 15-4 Electrification requires additional generating capacity outside the basin. The specific mechanism for mandating other areas to accept increased emissions in their own areas for the benefit of the South Coast Air Basin must be identified. The other alternative source of electricity generation is to build additional nuclear plants which produce no air emissions. These nuclear plants have been politically unacceptable in the last few years. A method of overcoming this opposition which is guaranteed to succeed must be identified.
- 15-5 The concept of more concentration of population in order to make public transit more practical is directly opposite to what most residents want. They want the spread out single family home style of life which is why many of them left New York or Chicago or Detroit. Many more have moved to the suburbs to avoid the high concentration of population they perceive occurring in the central area of Los Angeles. How this obvious public opinion can be reversed needs to be specifically addressed.
- 15-6 Do we limit the number of visitors to the basin? Clearly tourism is one of the major industries in the basin. Just as clearly, tourists' automobiles contribute to air emissions and traffic congestion. If the number of tourists is to be limited, how is this to be accomplished? A lottery system to choose who gets to come in? A bidding system where only the highest bidders get to come in? How do Disneyland, Knotts Berry Farm, the Anaheim and Los Angeles Convention Centers feel about such a limitation? Their views must be specifically reported.
- 15-7 A corollary concern occurs when a clean fuel policy is implemented. If most visitors cars burn only gasoline and the mandated fuel in the basin is methanol, how do the visitors fuel their cars? What effect does this inconvenience have on tourism? Again, this issue must be addressed.
- 15-8 Funding for transportation improvements becomes even more difficult if the clean fuel program is implemented. Gasoline carries 9.1¢ per gallon state tax plus 9.1¢ per gallon federal tax while diesel fuel carries 9.1¢ per gallon state tax plus 15.1¢ per gallon federal tax. These tax funds are dedicated to highway construction and maintenance. Methanol has congressionally mandated exemption from at least part of the federal tax and may receive tax preference at the state level. Use of these alternate fuels will seriously reduce the funds available for highway improvements. Replacing this lost source of funds for improvements wanted for the AQMP must be addressed.

15-3 Please refer to the response for comment 9-2.

15-4 Please refer to the response for comment 2-9.

15-5 The land use impacts that would result from increased population densities due to the Growth Management Control Measure include changes in building height, lot coverage and setbacks, density, circulation patterns, and parking. As noted in the DEIR (4-7.4), these changing aspects of the environment would be regulated by local plans. Urbanized areas of Los Angeles and Orange Counties would be most likely to experience increased densities as 5 percent of future housing growth that would otherwise occur in the inland counties is shifted to job-rich areas.

15-6 Your comment is noted. However, this is not one of the measures proposed in the AQMP.

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- 15-3 Some very major areas are not well addressed. First of these is funding for the transportation related issues. According to the L. A. County Transportation Commission staff capitol cost of these transportation proposals would require \$37.2 billion over nine years while \$6.9 billion is accounted for with existing funding sources. Simply wishing that the federal or state governments will supply the funds won't "make it happen". Realism requires the assessment that the vast majority of these funds must be generated within the basin. How? - bonds? special gas taxes? special real estate taxes? special sales taxes? The source of these funds must be specifically identified.
- 15-4 Electrification requires additional generating capacity outside the basin. The specific mechanism for mandating other areas to accept increased emissions in their own areas for the benefit of the South Coast Air Basin must be identified. The other alternative source of electricity generation is to build additional nuclear plants which produce no air emissions. These nuclear plants have been politically unacceptable in the last few years. A method of overcoming this opposition which is guaranteed to succeed must be identified.
- 15-5 The concept of more concentration of population in order to make public transit more practical is directly opposite to what most residents want. They want the spread out single family home style of life which is why many of them left New York or Chicago or Detroit. Many more have moved to the suburbs to avoid the high concentration of population they perceive occurring in the central area of Los Angeles. How this obvious public opinion can be reversed needs to be specifically addressed.
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15-7

Two types of travel would be affected at the interface between the Basin and surrounding areas: fleet vehicle travel and private passenger automobile travel. Measure G-2, Clean Fuels in New Fleet Vehicles, calls for operators of fleets of 15 or more vehicles to add new vehicles or replace old vehicles with cars, trucks, or buses capable of operating on an alternative fuel. As the measure states, "The most likely alternative will be the purchase of flexible fuel vehicles, which are able to operate on gasoline or methanol." Such fleet vehicles make up an estimated 6 percent of the total vehicles in the region. The SCAQMD estimates that 15 to 30 percent of fleet vehicles will be able to use alternative fuels by 2000. Thus, no adverse impact on inter-basin travel is expected as a result of fuel availability.

Tier II Transportation Sector controls call for conversion of 40 percent of passenger vehicles to alternative fuels, such as methanol, or electrification, starting after 1993. As a result, if economic and environmental conditions in other basins do not necessitate the same modifications in travel technology, roughly 40 percent of autos operating in the Basin could have difficulty traveling more than a 200-mile round trip distance outside the Basin without special consideration for refueling or recharging. Automobiles operating with an electric rail or other form of automation would not be able to travel outside those portions of the Basin specially equipped for such vehicles to operate. Residents of the Basin who own vehicles adapted solely for alternative fuels or electrification would need to rely on rental cars, commercial long-distance buses, airlines, or rail for travel to areas outside the Basin that do not have alternative fuel or recharging facilities.

Refer to the economic section (4-18) and Attachment 6 for other impacts associated with the use of alternative fuels.

15-8

Please refer to the response for comment 9-2.

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- 15-9 There must be natural sources of emissions which are ignored by these documents. The native Indians called the basin "The valley of smokes" because at certain times of the year, it became very hazy. How much do these sources contribute to the overall emission level? Are there natural methods of "consuming" smog? After all, nitrates, sulfates and oxygen are all recognized fertilizer components. It is apparent to a layman that certain plant varieties perform extremely well in a smoggy area. Does this mean that these varieties use emissions as fertilizer? Has anyone tried to find out?
- 15-10 As one who has participated in the EIR process involving private projects where 6 inch stacks of paper are standard for relatively minor land use proposals, I simply cannot believe that the issues have been adequately addressed in a one inch thick document for a proposal which will affect the daily lives of ten to twelve million people.
- 15-11 Intellectually I believe the public understands that this is a geometric type relationship. Ninety percent of the improvement has been made at ten percent of the social cost. (The numbers are order of magnitude only) The public must decide how much of the remaining ten percent improvement they are willing to pay for with how much of the remaining ninety percent of the social cost. If the public does not agree that the perceived benefit is worth the cost, they will again "vote with their feet" and leave the area. Depopulating the basin is clearly one method of improving air quality - but not one most people would welcome.
- 15-12 Balance must be obtained and it must be obtained with public support. The media must be enlisted - particularly TV - to widely discuss the trade-offs necessary. The public must be part of the decision process - not merely those coerced into complying with "Big Brother's" dictates.

Very truly yours,

R.R. Munro
Manager of Special Services

RRM/jp

cc: Don Reining
Ron Johnston
Mary Lou Smith
Gary Butler
Dave Cahn

15-9

The commentor suggests that there may be natural methods of "consuming smog," because of noticeable seasonal variations in air quality due to climate, meteorology, and chemical reactions of the various pollutants. For example, ozone is produced by atmospheric photochemical reactions between NO_x and other hydrocarbon species. Therefore, ozone concentrations are higher in the summer because solar radiation is more intense and of longer duration, and temperature inversions are stronger and more persistent. The seasonal patterns for NO_2 are not as well-defined as those for ozone, but the highest seasonal concentrations typically occur in the fall-winter months and are lowest in the spring and summer. Part of the reason for the increased NO_x levels in the fall-winter months is that solar radiation is less intense and days are shorter. Consequently, the time during which photochemical reactions involving NO_x occur is shorter, and the reactions are slower because solar radiation is less intense.

The addendum to Appendices III-A, III-B, and III-C presents a section concerning emissions from vegetation. The Statewide Air Pollution Research Center at the University of California Riverside conducted an extensive research study which characterized the type, amount, and spatial distribution of emissions resulting from various forms of vegetation in the Basin. Using the Empirical Kinetic Modeling Approach (EKMA--Urban Airshed Model [UAM]) to assess the impact of these emissions on ozone formation in the Basin, it was estimated that the relative contribution by vegetation to ozone formation was less than 10% of that produced by anthropogenic sources of hydrocarbons.

15-10

The detailed impacts of individual control measures will be addressed during the rule-making process. Implementation of the tactics identified in the Plan will only occur after a regulation is adopted pursuant to rule-making authority granted the District or ordinances enacted by local governments. The EIR for the AQMP is intended to serve as a base document within the tiered system.

Development of detailed cost data for some control measures will be undertaken at the time of rule development.

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15-9

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15-12

Balance must be obtained and it must be obtained with public support. The media must be enlisted - particularly TV - to widely discuss the trade-offs necessary. The public must be part of the decision process - not merely those coerced into complying with "Big Brother's" dictates.

Very truly yours,

R.R. Munro
Manager of Special Services

RRM/jp

cc: Don Reining
Ron Johnston
Mary Lou Smith
Gary Butler
Dave Cahn

15-11

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

15-12

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

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Chevron U S A Inc
P.O. Box 97 El Segundo, LA 90245

OCT 27 1988

RESPONSES TO COMMENTS
CHEVRON (10/26/88)
COMMENT LETTER #16

Manufacturing Department
El Segundo Refinery
D J O'Reilly
General Manager
J H Matkin
Manager Operations
G N Lenz
Manager Technical
R E Kenyon
Manager Maintenance
J P Humphries
Manager Human Resources

October 26, 1988

Draft EIR for AQMP

Dr. James Lents, Executive Officer
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

Dr. James Lents:

The attainment of air quality standards in the Los Angeles Basin is a herculean task to which the District has devoted many man-years of effort. The Air Quality Management Plan is an all encompassing document with tremendous impact on life in the Basin, so it is especially important that all the possible impacts are thoroughly examined in the Environmental Impact Report.

16-1 As stated in the text, the draft Environmental Impact Report (DEIR) is intended to fully disclose the environmental impacts of the AQMP. However, we are disappointed with the lack of depth that is contained in the DEIR and do not believe that it meets the requirements of the California Environmental Quality Act. Our major concerns are summarized as follows with further detail in Attachment I

16-2 • The impacts of the AQMP are not considered as a whole. The impacts of individual control measures are discussed, however, this leads to contradictions. Unless the entire AQMP is considered, it is impossible to really understand the implications of the plan.

16-3 • In many cases, the District does not have the authority to implement the mitigation measures cited in the DEIR. The AQMP, particularly in the description of Tier I measures, discusses that action by other agencies such as SCAG and CARB is required for implementation of several of the measures. However, the DEIR does not address how the control measure or especially the mitigation will be accomplished. This leaves the reader wondering if implementation of the AQMP is even possible. If the EIR is intended to be a stand-alone document, these authority and jurisdictional issues must be discussed.

• Some aspects of the DEIR do not meet CEQA requirements. For example-

16-4 Data presented in the DEIR is not consistent with the most recent draft of the AQMP. Therefore, it is arguable whether the requirement for an EIR for the AQMP can actually be satisfied by this DEIR. Also, some sections are not adequately documented and thus the validity of them cannot be evaluated.

16-5 The full economic impact of the AQMP is not discussed. Projections should be made of the expected economic situation in the Basin during and after implementation of the

16-1 Your comment is noted and substantial information can be found in the December, 1988 EIR. Please refer to the response for comments 1-1, 1-2, and 2-12 which discuss the level of detail required in the EIR.

16-2 The FEIR contains additional clarification of the environmental and economic impacts of the AQMP control measures. More detailed information can be found in Appendices F, IV-A, IV-B, IV-C, IV-F, IV-H, and IV-I to the AQMP. Please refer also to the response for comment 1-20.

16-3 Please refer to Attachment 8 regarding mitigation measures. Please refer also to the response for comment 2-10.

16-4 The EIR and AQMP have been updated with the most recent information. Please refer to the response to comment 16-1 which addresses the requirements of the Plan.

16-5 Please refer to Appendix F which discusses the socioeconomic impacts of the AQMP. Please refer also to Section 4-18 of the December, 1988 EIR which addresses the economic impacts of the Plan.

16-5
cont

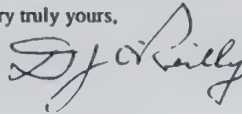
AQMP. The reader is left with a sense that the AQMP will adversely affect the economy, but has no idea of the degree of the impact.

16-6

The impacts of methanol usage are not fully discussed and, apparently, have not been adequately investigated. Since methanol is a recommended or mandated fuel throughout the AQMP, the EIR should thoroughly address the positive and negative impacts so that the reader can fully understand the implications and ramifications of methanol usage.

Chevron understands that development of an EIR for a task as large and encompassing and the AQMP is a formidable undertaking. However, a sufficient assessment of the impacts is required under CEQA and is critical before an educated decision to adopt the plan can be made.

Very truly yours,



KBM.ffr/06.EA

cc: Mr. Mark Pisano, Executive Director
Southern California Association of Governments
600 South Commonwealth Ave. Suite 1000
Los Angeles, CA 90005

Ms. Suzanne Reed, Special Project Coordinator (6 Copies)
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

16-6

The impacts of methanol use are addressed in Attachment 6 and in the response to comment 2-8.

ATTACHMENT I

Consideration of Individual vs. Overall Impact

16-7 The measures in the DEIR are considered on an individual basis and apparently little thought is given to the impact of the AQMP as a whole. This leads to contradictions. For example, in the section devoted to coal resources, the DEIR states that coal consumption will increase because it will be the fuel most likely used for generation of electricity for the Basin. It goes further to state that coal usage may increase if it is used as a feedstock for methanol production, but the increase is expected to be slight because it is much more expensive to produce methanol from coal than from natural gas. The section that discusses natural gas first comments that natural gas will be available for uses such as methanol and ammonia production because of decreased industrial demand for natural gas as a combustion source. Then it says that methanol and ammonia will probably not be produced in the Basin, which is good since increases in population will increase the demand for natural gas. Finally it states that depletion of natural gas supplies can be mitigated by the use of coal as a feedstock for processes such as methanol production. It is clear that the overall relationship between natural gas usage and coal usage was not thoroughly thought out.

16-8 Another example is the Freeway Capacity Enhancement measure which proposes to add 875 new lane-miles of freeway to alleviate severely congested routes thus reducing truck and auto emissions. This will be in direct conflict with the growth management goal of achieving a better job/housing balance. Less congested conditions will encourage people to commute from outlying areas of the Basin to the more job-rich areas. The measure itself was discussed in the DEIR, but the overall impact was not considered.

16-9 Many of the measures in the AQMP increase risk or could be a disbenefit to health of people in the Basin. Examples include increased risk associated with ammonia storage and ammonia slip from SCRs, disposal of catalyst from SCRs and spent charcoal from carbon canisters, acute effects of methanol exposure and health effects of increased exposure to high-voltage power lines. The DEIR should assess the overall health impacts, both positive and negative, associated with the implementation of the AQMP and compare that with the adverse health effects associated with exceedances of the air quality standards.

Lack of Authority for Implementation

16-10 In many cases, the District does not have the authority to implement the mitigation measures cited in the DEIR. One section in the DEIR admits that large scale unemployment could result from the implementation of the AQMP and that the unemployed may require assistance such as food stamps, welfare payments and free medical care. It also states that special provisions could be made for increased or extended unemployment insurance benefits if unemployment is caused by AQMP compliance costs. The District has no jurisdiction over these programs and it is unreasonable to assume that residents in other parts of the State would agree to financially support a large percentage of the population living in the LA Basin. Also, there is no indication of how projects such as Freeway Capacity Enhancement or the construction of a high-speed rail from LA to San Francisco would be funded. The DEIR defines the starting point (present air quality) and the desired end point (attainment of standards) but it is unclear to the reader how the Basin will move from "point A to point B."

16-11 The implementation of the AQMP would require a great deal of cooperation among cities and counties. They would have to agree to change their general plans in order to achieve the desired job/housing balance. Some cities will have to agree to accept a freeway or an electrical corridor. This will be difficult considering that the typical "not in my backyard" opposition should be expected. Public outcry may not be able to stop a project but it can delay it for a long time. This

16-7 Your comment is noted. Please refer to the response for comment 2-19. Please refer also to Attachment 6 and the response for comment 2-8 which address your specific concerns.

16-8 Please refer to the response for comment 2-105.

16-9 The health risks associated with the AQMP are discussed in the December, 1988 EIR, Section 4-17. Attachments 3, 6, 7, and Appendix IV-E to the AQMP, and the response to comment 3-94 address your specific concerns.

16-10 Please refer to Attachment 8 for a discussion of mitigation measures. Funding mechanisms for transportation-related measures are discussed in Appendix IV-H, Regional Mobility Plan, Section 6, and in Section 4-18 of the December, 1988 EIR.

16-11 Please refer to the responses for comments 2-10, 9-13, and 9-16.

- 16-11
cont will hinder meeting the 2010 attainment goal. It is not clear how the District will or can ensure the required cooperation.
- 16-12 The AQMP calls for out-of-basin transport of biodegradable solid waste, production of methanol and generation of electricity. This leads to moral and ethical questions. Under CEQA, the District must consider all potentially adverse impacts, even if they would occur outside its geographic jurisdiction. The DEIR does not discuss the impacts of these activities in detail. However, the DEIR even admits that these will transfer the associated risk to the out-of-basin locations. It will be difficult to site these projects because most people do not want to live near these types of facilities and would not be willing to accept risk for activities for the sole benefit of other communities. A complete EIR would examine the impact these activities would have on areas outside the Basin.
- CEQA Requirements**
- 16-13 Certain sections of the DEIR are not adequately documented. The validity of the table that shows the AQMP control cost by SIC code (Table 4-18.1) cannot be evaluated because there is no description of the basis and assumptions made in deriving the figures. Another difficulty the reader must overcome is that some of the figures presented in the DEIR are not consistent with the most recent draft of the AQMP. For example, the numbers in Table 4-1 of the September 1988 draft AQMP and Table 2-2 of the DEIR should match but they do not. Further complicating the issue is that Tables 2-2 through 2-4 in the DEIR are not even complete.
- 16-14 The economic impacts of AQMP implementation are not adequately addressed by the DEIR. In some sections it indicates that the economy will be adversely impacted when businesses leave the Basin and individuals are left unemployed. In other sections it downplays the potential adverse economic consequences. AQMP implementation costs will put industry in the Basin at a competitive disadvantage with industry outside the Basin. The impacts on the economy of the Basin should be projected and discussed in the DEIR. Air quality improvements at the cost of severe economic depression may be more than people living in the Basin are willing to accept.
- 16-15 Methanol usage is a recurring theme throughout the AQMP. However, the DEIR does not adequately address potential impacts. It states that the impacts of the additional formaldehyde emissions are yet to be determined. It discusses the fact that methanol is corrosive and that transportation, handling and storage of methanol could pose increased risks of groundwater contamination. The DEIR does not discuss the fact that, unlike conventional fossil fuels, methanol is water soluble so it is a greater threat to the groundwater. The DEIR acknowledges that methanol is a neurotoxin and that employees should wear impervious clothing, gloves and other protective clothing to prevent repeated or prolonged skin contact with liquid methanol. It is unclear how the public will be protected while refueling their vehicles. The DEIR compares the toxicity of methanol and gasoline and states that methanol exposure is no more harmful than exposure to gasoline and that some known or suspected carcinogenic compounds contained in gasoline are absent in methanol. Methanol is acutely toxic and constituents in gasoline are chronically toxic. Comparing these two, different types of health risks is like "comparing apples with oranges." To arbitrarily say that methanol exposure is no more harmful (or even less harmful, as stated in another section of the DEIR) than gasoline does not adequately address the issue and associated concerns.
- 16-16 The DEIR also states that methanol substitution could result in increased carbon monoxide and hydrocarbon emissions due to the lower combustion temperature of methanol. No details or mitigation measures are given. There is no indication that these potential impacts were included in the modeling of CO and ozone and no explanation of why they were not included. The reader is left wondering how significant the air quality improvements can be expected to be, given the potential impacts of methanol substitution.

- 16-12 Please refer to the response for comment 2-9 and to Attachment 5 regarding out-of-Basin impacts of electricity generation. The impacts of methanol production are discussed in Attachment 6. Impacts from out-of-Basin transport of biodegradable solid waste is included in Section 4-13 of the December, 1988 EIR. Please refer also to the response for comment 1-48.
- 16-13 Table 2-2 of the DEIR has been updated in Table 2-14 of the December, 1988 EIR. This is consistent with Table 4-4 in the Proposed Modifications To The AQMP. The EIR control cost by SIC code has been updated (see Table 4-18.2 in the December, 1988 EIR). Also please refer to the response for comment 2-12.
- 16-14 Please refer to the December, 1988 EIR, Section 4-18. Please refer also to Appendix F and Appendix SCE # 1 which include updated emissions reduction figures.
- 16-15 Please refer to Attachment 6 and to the response for comment 2-8 which address the impacts of using methanol as a fuel.
- 16-16 Ozone and CO modeling included the best scientific estimates of methanol substitution available for modeling. This included reduced reactivity of methanol vehicle emissions. For Tier II methanol substitution, the photochemical reactivity of the organic gases results in a net air quality benefit, even with a slight increase in reactive organic gases emissions. Please refer to the emissions reduction noted in Appendix SCE # 1.

OCT 27 1988

RESPONSES TO COMMENTS
MOBIL OIL CO. (10/27/88)
COMMENT LETTER #17

October 27, 1988

Ms. Suzanne Reed
Special Projects Coordinator
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

COMMENTS TO DRAFT 1988
AIR QUALITY MANAGEMENT PLAN
AND DRAFT ENVIRONMENTAL IMPACT
REPORT

Dear Ms. Reed:

Mobil Oil Corporation is pleased to have an opportunity to provide our comments on the Draft 1988 Air Quality Management Plan and the Draft Environmental Impact Report.

Mobil supports the goal of improving air quality in the South Coast District. A number of alternative approaches to achieving these goals are available and each should be carefully evaluated to identify the most cost effective approach with the least disruption to the business community and the public at large. It is clear that any plan to achieve the ambitious goals within the time frame proposed must include the personal commitment of each resident and business in the District. We recognize that the Los Angeles Basin is a unique air quality area and may be required to use higher cost/ton strategies than other areas. Mobil is prepared to support this effort and all reasonable, cost effective and technically feasible control measures, particularly those which will reduce ROG to accelerate and maintain attainment of the ozone standard.

Mobil endorses and supports those comments to the Draft AQMP and EIR being submitted by the Western Oil and Gas Association (WOGA). Comments to the Draft AQMP follow:

(Responses to comments will begin on a following page.)

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RECOMMENDED PRIORITIES/DISPOSITIONS FOR AQMP's TIER I ITEMS

Mobil has reviewed the Tier I Control Measures proposed in the AQMP that would affect our business and supports all of those that are reasonable and cost effective. These are listed under a Priority I category and attached to this letter.

We further categorized eight additional measures proposed in Tier I which we may be able to support in the future as commercial technologies become available and are cost effective. Finally, we identify three measures that need further analysis and evaluation as either the technology is not available or the measures are not cost effective.

ALTERNATIVE CONTROL STRATEGIES THAT SHOULD BE CONSIDERED:

The District is pursuing a strategy of aggressive implementation of control measures to reduce NOx emissions from stationary sources in order to come into compliance with the particulate standard. However, these very rules will make it more difficult and costly to come into compliance with the ozone standard. Air modeling would indicate that an alternative approach could lead to a more effective strategy. This alternative is to reduce ROG emissions first and to delay NOx controls until the District is well underway in its attainment of the ozone standard. This strategy is likely to produce more rapid ozone reduction, less public ozone exposure and reduce ozone health risk.

The District has acknowledged that vehicular sources, particularly on-road vehicles, contribute over 50% of emissions in the basin. One of the major factors contributing to these emissions is the apparent failure of the majority of these vehicles to adhere to the original certification standard of 0.41 g/m HC for the minimum 50,000 miles. Recent information has indicated that late model passenger cars violate this standard as early as 20,000 miles and most are in violation well before the mandated minimum of 50,000 miles. It is clear that a more vigorous, timely enforcement program is required to correct warranty violations.

Older vehicles with less efficient fuel, air flow and exhaust catalyst systems are another major source of vehicular emissions. The draft plan does not provide any discussion of techniques or incentives to accelerate fleet turnover and remove older, higher polluting vehicles from use. There may be a variety of techniques to achieve this goal without penalizing the consumer and which may be much more cost effective than other control measures. Combining a technique of this sort with stricter enforcement of existing emissions standards via an improved Inspection and Maintenance and anti-tampering program will yield significant benefits in reducing emissions.

OTHER VEHICULAR EMISSIONS STRATEGIES

A key element of the proposed Tier II Control Measures and Goals is the mandated conversion of 40% of passenger vehicles, 70% of freight vehicles and all diesel-powered transit buses to clean fuels, of which methanol is the

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leading candidate, and the subsequent change to electric vehicles in Tier III. Rather than impose a vehicular fuels mandate, Mobil would suggest that the District set more stringent vehicle emission standards. This will allow industry the flexibility and opportunity to find the technically feasible and most cost effective program to reduce these emissions.

The AQMP does not include data concerning the costs or effects of conversion to methanol. There is a great deal of concern among the scientific community regarding the uncertainties and potential drawbacks associated with widespread methanol use as a fuel. These concerns include the toxicity of methanol itself, formaldehyde emissions, vehicle engine design considerations, economic penalties and the safety aspects in particular, of increased storage and handling requirements.

Toxicity: In its neat form (M100) methanol is colorless, odorless and burns without any visible flame. It is highly toxic if ingested and can be absorbed through the skin. There is considerable scientific and medical data regarding the acute effects of methanol, but little work is published on the chronic long-term effects of exposure to methanol as would be expected with widespread introduction and handling as a fuel. While in many applications methanol may be mixed with gasoline (i.e., M85) there would be a substantial increase in neat methanol storage and handling. Compounding this is the fact that a gallon of methanol has only about one-half the driving range of a gallon of gasoline. Although extreme care in storage and handling would certainly be taken, the very toxicity of methanol and the fact that it is tasteless and odorless raises serious concern for a possible release of methanol into drinking water supplies, i.e., conversion of the L.A. Basin would require up to 2-3 tanker deliveries per day into the Los Angeles/Long Beach harbors.

Formaldehyde Emissions: Methanol-fueled engines produce significant emissions of formaldehyde which is highly reactive in the atmosphere and could worsen the ozone problem. Control of these emissions poses a serious technological concern which has been acknowledged by automotive representatives. Little is known about the long term effects of these emissions. Careful investigation and evaluation is necessary to insure that we are not trading one environmental problem for another.

Engine Design: Long term engine design considerations include overall durability to resist the aggressive corrosion and solvent properties of methanol; requirements for a unique engine oil; hot and cold start considerations as well as an effective catalyst to control formaldehyde emissions. A flexible fueled vehicle (FFV) will likely be needed to provide transition and allow for operation outside the basin. Design of a reliable FFV to operate on both methanol and gasoline further complicates the transition to alternative fuels. Should a dedicated methanol engine be introduced, a strong I&M and anti-tampering program will be needed to assure that appropriate emissions levels are not exceeded just as it is for gasoline-fueled vehicles.

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Storage and Handling: As previously noted, storage and handling requirements will likely double that of a comparable amount of gasoline due to the increased requirements for methanol to meet the Basin's fuel demands. Deliveries would also be doubled putting this measure in direct conflict with the goal of reducing heavy duty truck traffic. This will require appropriate capital investments as well as increase the risks of methanol exposure. Methanol storage and handling systems will also require different fire suppression systems than those for petroleum fuels as well as revised training of emergency personnel. In addition to increased storage and handling construction requirements, existing storage and distribution systems would have to be upgraded since they are not currently fully compatible with methanol.

Emission Benefits: Data has demonstrated that even with effective control of formaldehyde, the benefit of emissions reductions are not truly achieved until vehicles are using neat methanol (M100). M85 dedicated vehicles result only in modest emissions reduction and benefits from a prototype FFV are negligible at best and are probably less effective than existing gasoline engines.

Prudence dictates that these major operational and environmental concerns be fully addressed and answered before conversion to alternate fuels can be considered.

Vehicle Controls Have Been Deleted from Proposed Tier II Measures

The proposed AQMP released in June 1988 included the following Tier II control: "Reduced vehicle usage through reduction of vehicle miles traveled (VMT) to 1985 levels". Since vehicular sources contribute 46% of ROG and 59% of NOx we question why this important control measure has been deleted from the September 1988 draft. This is particularly noteworthy in view of the many obstacles to the successful conversion to alternative fuels that exist and the uncertainties as to their potential emissions benefits. While control of VMT could be unpopular, it may, in fact, be much more acceptable to the public than the controls being proposed. If the ambitious goal of attainment of air quality standards, particularly ozone, is to be met each resident of the District will need to recognize and consciously commit to the radical changes in lifestyle that may be required to reach these goals.

Lower Gasoline Vapor Pressure Standards and Diesel Aromatic Controls Cannot be Supported

Based on the lack of demonstrated benefits to air quality and/or adverse impact to the environment, we oppose the inclusion of the strategies proposing reductions in gasoline vapor pressure standards and the reduction of aromatic content in diesel fuels. We could endorse a proposal to cap diesel fuel aromatics at their present level. The effects of these proposed control strategies should be quantified before they are considered in the AQMP as ROG or PM10 Control measures.

0000356

EXPORT FEES FOR PETROLEUM PRODUCTS EXPORTED OUTSIDE THE LOS ANGELES BASIN ARE UNREASONABLE

Businesses such as petroleum marketing and refining generally locate to serve a market demand. The majority of petroleum products produced in the basin are for consumption in the basin and adjacent areas. The boundaries of the South Coast District were not established based upon business conditions, but by a criteria unrelated to the original factors for locating petroleum refineries and other facilities. Accordingly, proposing to establish export fees for products transported across their boundaries unfairly penalizes businesses that may be serving the needs of Californians in adjacent areas. Since Southern California refineries also provide product to out-of-state locations serious interstate commerce questions would be posed by such a tax.

Tier III

Tier III objectives include a conversion to electric vehicles and elimination of emissions from petroleum production, refining and distribution. With this objective, the District is proposing yet another complete shift in transportation technology from "clean fuels" (i.e., methanol) in Tier II to electrification in Tier III. Given the average automotive fleet turnover of about 10 years, the feasibility and likelihood of the public accepting three fleet turnovers in less than 20 years is most unlikely.

THE AQMP DOES NOT ADEQUATELY EVALUATE THE POTENTIAL EMISSIONS CONTRIBUTION OF THE PROPOSED CONTROL MEASURES BOTH WITHIN AND OUTSIDE THE SOUTH COAST DISTRICT.

The AQMP proposes a major shift to electrification both for stationary and vehicular sources. The plan assumes that the electricity required will come from sources outside the District possibly from the Four Corners area where large coal-fired power plants generate power for out-of-state export. The cost of this electricity to the residents of the Basin has not been quantified nor has the environmental impact of such installation or the feasibility of their construction been explored. The significant demand created by such a transfer to electrification will necessitate the construction of numerous new power generation facilities. The emissions contributions of these new sources of power are not addressed in the plan. Depending upon the fuel used for such plants, there could be severe environmental impacts associated with their construction and use which have not been comprehended. Environmental awareness dictates a complete assessment of proposed measures to ensure that one environmental problem such as air pollution is not being substituted for a more serious concern such as hazardous waste generation, ammonia disposal, or CO₂ emissions which would worsen the Greenhouse effect, a worldwide problem. To truly evaluate the effects of the AQMP, some analysis of the effects of these pollutants on the environment, even if it is not Southern California, is essential.

000057

THE AQMP DOES NOT CONSIDER THE SOCIOECONOMIC IMPACT OF A PLAN DESIGNED TO
DRAMATICALLY ALTER PUBLIC LIFESTYLES

Public education of an air quality improvement plan which will dramatically alter the way business is conducted in the Los Angeles basin and affect the way each resident lives and works over the next 20 years and thereafter has been severely limited. The plan, as put forth, is contained in many documents. Nevertheless, neither the affected industries nor the public at large have been able to digest, review and fully evaluate the AQMP in the time allotted. The public at large may well be unaware that the plan will require them to shift to two different vehicle propulsion systems, first methanol and then electricity, over the next 20 years at a considerable cost. A two month schedule of limited public hearings, with little advance notice and little or no consideration of alternatives is not in the best interest of the public.

The socioeconomic impacts of these proposed rules have not been comprehended and must be addressed and given full consideration by all concerned before a final plan can be designed and implemented.

TIER I, II AND III PROPOSED CONTROL MEASURES ARE IN CONFLICT WITH EACH OTHER

The AQMP proposes an outline of control strategies over the next 20 years that are contradictory to the basic tenets of effective business planning. Tier I control measures propose that existing fuels and manufacturing processes for these fuels should be "cleaned up" at a significant cost to the industry and ultimately to the consumer. Tier II and III control measures then propose two complete and separate shifts away from the fuels which the industry has spent billions of dollars cleaning up. Tier II first proposes a shift to methanol for stationary and vehicular sources with a further shift to complete electrification in Tier III and the ultimate elimination of petroleum based fuels. Obviously, Mobil has concerns for a plan that first requires extensive expenditures to completely change operations and then face the likely prospect of subsequent elimination of its market base clearly articulated in a proposal that will acquire the force of law. The consumer impact of such changes also would be extreme.

Comments on the Draft Environmental Impact Report (DEIR)

- 17-1 o The DEIR does not consider the interaction and overlap of the various proposed control measures and their impact on the District. Each control measure seems to be implemented independently with insufficient analysis of the impact on measures already implemented or to be implemented. This is particularly true for the limited analysis conducted for economic impacts and the energy impacts of a mandated shift to alternative fuels. The optimism expressed in the plan for the availability of these fuels, cost competitiveness and ease of introduction is not supported with convincing data.

17-1

Please refer to the response for comment 2-19.

October 27, 1988

- 17-2 [0 The availability of alternative fuels outside the basin for vehicular sources travelling to those areas has not been considered. Additionally, the means to control as well as the impact of restricting alternatively-fueled vehicles to travel within the basin has not been comprehended.
- 17-3 [0 As previously discussed in summary comments to the AQMP there is only superficial comment or analysis of alternative strategies. The analytical work being conducted by other groups such as the Western Oil and Gas Association could prove beneficial in providing more cost-effective and reasonable alternatives to the AQMP. Mobil believes that all viable alternatives including air modeling should be fully explored before appropriate plans are developed and finalized.
- 17-4 [0 Discussion of goods movement in Transportation Impacts fails to include a consideration of the impact of an increase in allowable gross vehicle weight on the potential reduction in heavy duty vehicle traffic and the number and frequency of deliveries.
- 17-5 [0 The socioeconomic impacts of the reduction in the use of fossil fuels have not been adequately addressed in the DEIR. While the DEIR contains a section on economics, it provides little detail of the impact socially or economically of the shift to two completely unique forms of vehicle propulsion (first methanol, then electrification) called for during the twenty year implementation schedule of the AQMP.
- 17-6 [0 The cost/benefit discussion in the DEIR is incomplete in that the full benefit of implementation of all control measures is assumed with only a partial estimate of emission reductions and total costs.
- 17-7 [0 Methanol economics do not appear to have been investigated by South Coast Air Quality Management District in any detail in the DEIR even though the cost of methanol and the new fuel infrastructure would have a dramatic effect on any cost benefit analysis.
- 17-8 [0 All proposed control measures in the AQMP should be ranked in an order that shows those measures which provide the most equitable and cost effective benefit with the least socioeconomic impact.

Very truly yours,



Wyman D. Robb
Refinery Manager

- 17-2 Please refer to Attachment 6 on alternative fuels.
- 17-3 Your comment is noted. The WOGA Alternative strategy has been evaluated by the District staff and the conclusions are provided in Attachment 1.
- 17-4 Each AQMP issue has been addressed at a level of detail consistent with the data available. Values are assigned and forecasts quantified where feasible. More detailed impact evaluation will be presented during rule-making or implementation of specific control measures.
- 17-5 CEQA requires that socioeconomic impacts be given to the extent they induce environmental impacts. Impacts of electrification are discussed in Appendix IV-B: Energy Future (also see Attachment 5). Impacts of using other alternative fuels are covered in the December 1988 EIR (also see Attachment 6). For quantitative estimates of the Plan's socioeconomic impact, refer to Appendix F.
- 17-6 Just as the estimate of the AQMP's cost did not reflect all costs, the estimate of the AQMP's dollar benefit did not consider all of the pollution damage reductions. The benefit estimate included only reduction in air pollution damages to health, materials, forests, and agriculture. The damages were based on noncompliance with federal standards for two pollutants only ozone and particulates. Indirect health costs, such as pain and discomfort, were not considered in calculating the benefit estimate. These could amount to 20 percent to 50 percent of the total health damage. Agricultural damages included damages only to dry beans, cotton, potatoes, and grapes.

000029

October 27, 1988

- 17-2 [0 The availability of alternative fuels outside the basin for vehicular sources travelling to those areas has not been considered. Additionally, the means to control as well as the impact of restricting alternatively-fueled vehicles to travel within the basin has not been comprehended.
- 17-3 [0 As previously discussed in summary comments to the AQMP there is only superficial comment or analysis of alternative strategies. The analytical work being conducted by other groups such as the Western Oil and Gas Association could prove beneficial in providing more cost-effective and reasonable alternatives to the AQMP. Mobil believes that all viable alternatives including air modeling should be fully explored before appropriate plans are developed and finalized.
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- 17-8 [0 All proposed control measures in the AQMP should be ranked in an order that shows those measures which provide the most equitable and cost effective benefit with the least socioeconomic impact.

Very truly yours,



Wyman D. Robb
Refinery Manager

17-7

The ARB recognizes that the availability of methanol fueled vehicles and the supporting infrastructure are important aspects to the successful implementation of methanol. The ARB, in addition to developing standards to permit the sale and use of alternatively fueled vehicles, is also working with members of the oil industry to develop methanol product and infrastructure, and with auto manufacturers to produce and certify methanol-fueled vehicles with acceptable standards of performance and emissions (including formaldehyde). By working with the producers of the fuel and vehicle manufacturers, the ARB hopes to provide stimulus to the market place to make alternative fuels such as methanol economically viable. (See Attachment 6 and Appendix IV-E, June, 1988)

17-8

Control measures have been ranked according to the tonnage of pollutants they reduce. These figures, categorized by criteria pollutant, that is NOx, CO, etc., are presented in Table 1 at the end of the responses to comment Letter 7.

Control measures have also been ranked according to cost effectiveness, that is, the dollar cost per ton of specific pollutant reduced. These cost effectiveness ratios are presented in Table 2 at the end of the responses to comment Letter 7.

In deciding to adopt a control measure as a rule, the AQMD Board considers not only the amount of pollutant reduced by a control measure and the measure's cost effectiveness, but other important criteria as well, such as the time required for implementation, availability of financing, number of years the benefit would accrue, the need to attain specific reductions to achieve compliance with standards, etc. A full listing of the criteria for implementation of control measures appear on page 12 of "The Path to Clean Air Policy Proposals for the 1988 AQMP" (SCAG, SCAQMD, June 1988).

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PRIORITY 1 - ACHIEVABLE NOW AT A REASONABLE COST

Item

B-2 CONTROL OF EMISSIONS FROM GASOLINE TRANSFER:
IMPROVED INSTALLATION AND REPAIR OF PHASE II
VAPOR RECOVERY SYSTEMS, (ROG)

AQMP Proposed Control Measure:

Require persons engaged in installing and repairing Phase II vapor recovery equipment at service stations to complete a District sponsored training course and be licensed.

Mobil's Comments and Recommendation:

Mobil supports the AQMP proposal.

B-3 CONTROL OF EMISSIONS FROM OPEN SUMPS, PITS AND WASTEWATER SEPARATORS
(ROG)

AQMP Proposed Control Measure:

Require facility operators to replace their open sumps, pits or exempt separators with closed tanks or install solid covers over their existing units. (Control cost estimated in AQMP to be \$2,900/ton of ROG)

Mobil's Comments and Recommendation:

Mobil supports the AQMP proposal

B-5 CONTROL OF EMISSIONS FROM CYCLIC STEAM PRODUCTION WELLS, (ROG)

AQMP Proposed Control Measure:

Regulate ROG emissions from cyclic steam wells but not from the less prevalent fire flood operation, caustic flooding or CO₂ injection wells. Method of control would be to either shut off the wellhead vent or vent the emissions to a gas collection system. (Control cost estimated in AQMP to be \$3,800/ton of ROG.)

Mobil's Comments and Recommendation:

Mobil supports AQMP proposal to control subject emissions provided that the method used to achieve control be left up to the operator.

Item

F-1 INSTALLATION OF BEST AVAILABLE RETROFIT CONTROL TECHNOLOGY (ALL POLLUTANTS)

AQMP Proposed Control Measure:

To establish a program where installation on a retrofit basis is made as new technology becomes available to reduce emission of all pollutants. The majority are in the medium to small emission source categories. Three alternative control methods are proposed: District would require the installation of BARCT within some time period after the District establishes BARCT for that equipment category; permit renewal every five years contingent on installation of BARCT; or establishment of BARCT by individual District rules. (Control costs are estimated in the AQMP to be \$5,300/ton of PM, \$17,500/ton of ROG, \$18,300/ton of SOx and \$24,500/ton of NOx.)

Mobil's Comments and Recommendation:

Mobil supports the alternative No. 1 as listed in the AQMP provided that efforts towards retrofit identification and installation are progressed on a cooperative industry and District staff basis, and that ROG emission retrofit measures be implemented well before NOx measures in order to not exacerbate ozone attainment.

F-2 UNIFORM COMMERCIAL QUALITY STANDARD ON SULFUR CONTENT OF GASEOUS FUELS (SOx)

AQMP Proposed Control Measure:

To reduce the average sulfur content of refinery gas by 60% and the average concentration of sewage digester gas by 60-68% (approximate) to a proposed uniform standard of 100 ppm. Some refineries are now producing fuel gas below the proposed limit so no added controls are necessary while others need to install ammonia units to comply. (Control cost estimates in the AQMP are \$13,000/ton of SOx for refinery gas.)

Mobil's Comments and Recommendation:

Mobil supports the AQMP proposal for a refinery gas sulfur standard.

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Item

F-3 LOWER LIMITS ON SULFUR CONTENT OF STATIONARY LIQUID FUELS (SOx); and

I-5 LIMIT ON SULFUR CONTENT OF MARINE FUEL OILS (SOx)

AQMP Proposed Control Measure:

To set lower limits for sulfur concentrations of liquid fuels as are feasible, i.e., .05 wt % for all distillate fuels, 0.10 wt % for residual fuels burned in power plants and refinery equipment and 0.25 wt % for residual fuels burned in boilers and heaters. (Control cost per AQMP estimated at \$25,000/ton of SOx.)

Additionally, Item I-5 would extend the sulfur standard of 0.5 wt % maximum sulfur of District Rules 431.2 and 1116.1 and Regulation XIII to all ships rather than only lightering vessels and tug boats. (Control cost estimated at \$3,000/ton of SOx.)

Mobil's Comments and Recommendation:

Mobil supports the AQMP proposal provided that the plan to ban current fuels and mandate a shift to clean fuels is not implemented as scheduled in item F-10.

F-8 NEW SOURCE REVIEW (ALL POLLUTANTS)

AQMP Proposed Control Measure:

Would eliminate the threshold limits and the "free market" offset system and all emission increases would be instigated by allotments obtained from the New Source Siting Allowance (NSSA) administered by the District with separate allocations provided for four different source categories. Sources unable to obtain NSSA allotments may obtain offsets through innovative emissions reduction controls (control costs not determined in the AQMP).

Mobil's Comments and Recommendation:

Mobil would support the alternative New Source Review proposal being made separately by WOGA which would:

1) require any new or modified non-exempt source to offset net emission increases at a 1.2:1 ratio; 2) discount all past unused shutdown credits to BACT equivalent levels determined as of the date of shutdown and accumulate the shutdown credits in internal banks for use or sale; 3) allow innovative controls or over control emission reductions for use on or off site; 4) apply BACT to all new or modified sources which result in a new emission increase except for public priority projects such as sewage or wastewater treatment and R&D activities.

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Item

B-1 CONTROL OF EMISSIONS FROM GASOLINE TRANSFER: FAIL SAFE PHASE I VAPOR RECOVERY SYSTEMS (ROG)

AQMP Proposed Control Measure:

To require the use of fail-safe equipment in all Phase I fuel transfer systems. (Control costs not determined in AQMP.)

Mobil's Comments and Recommendation:

A fail-safe system designed especially for Phase I vapor recovery is not commercially available at the present time. Therefore, the implementation of this proposal should be delayed (per AQMP assessment) until systems are available for service stations and other applications.

B-6 CONTROL OF EMISSIONS FROM CRUDE OIL PIPELINE HEATERS (NOx)

AQMP Proposed Control Measure:

To reduce NOx emissions through the application of controls on crude oil pipeline heaters similar to those already being used on industrial boilers. (Control cost estimates listed in the AQMP range from \$2,000 to \$6,000/ton of NOx for combination burner modification to \$6,000 to \$22,000/ton for stack gas treatment.)

Mobil's Comments and Recommendation:

Industry is currently in the process of complying with the initial stages of the recently adopted NOx rules, 1109 and 1146, which will cost the industry approximately \$1 billion. These measures may hinder SoCAB's progress toward reducing ozone levels. Mobil urges air modeling be set up to determine the effect of all NOx control measures on ozone attainment. Implementation of NOx controls should be delayed at least until modeling has been completed and probably then delayed until all ROG measures have been implemented and ozone levels reduced..

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PRIORITY 2 (continued)

Item

B-7 CONTROL OF EMISSIONS FROM PETROLEUM REFINERY FLUID CATALYTIC CRACKING (FCC) UNITS (SOx)

AQMP Proposed Control Measure:

The current FCC unit emission limit as specified by Phase II of Rule 1105 is 132 lbs of SOx per thousand barrels of feed. The AQMP control measure would require an additional 90% reduction to a level of 13.2 lbs of SOx per thousand barrels of feed. (Control costs are estimated in the AQMP to range from \$20,000 to \$50,000/ton of SOx.)

Mobil's Comments and Recommendation:

This is an extremely high cost item that requires considerable advanced planning and engineering and individual companies would need to arrange their own independent time schedules for achievement. Mobil is nearing completion of the installation of an FCC feedstock hydrotreating unit for the Torrance, California FCC unit which should enable Mobil to meet the proposed SOx limits. This control option is one of the three methods suggested as available to industry in the AQMP proposal.

B-12 CONTROL OF EMISSIONS FROM PETROLEUM REFINERY FLARES (ALL POLLUTANTS)

AQMP Proposed Control Measure:

A two step approach is proposed. In Step I refining facilities would be required to monitor their flare operations using on/off status monitors and feed gas monitoring for flow and composition. Step II emission controls would be implemented if it is determined that flares are a significant source of emissions (control costs have not been determined per the AQMP).

Mobil's Comments and Recommendation:

Mobil supports Step I monitoring and could support the use of proven and cost effective control technology to minimize emissions from refinery flares provided that any specific proposed Step II control measure implemented after Step I data is evaluated as to need and cost effectiveness and that the safety relief function of refinery flares is not restricted or impaired.

B-13 FURTHER EMISSION REDUCTIONS FROM VALVES, PUMPS, AND COMPRESSORS USED IN OIL AND GAS PRODUCTION FIELDS, REFINERIES AND CHEMICAL PLANTS (ROG)

AQMP Proposed Control Measure:

Calls for blending of three control approaches, i.e., required use of modern "leakless" equipment; substitution of current inspection and maintenance procedures with "leak-violation" approach and greater use of "a self enforcement" approach by the operators. Leakless equipment would be phased in to replace older equipment over a 3-year phase-in period. Detection of a leak by a District staff member would amount to a violation. (AQMP estimates average control costs of \$15,000/ton of ROG but individual equipment ranging from \$3,000 to \$72,000/ton.)

Mobil's Comments and Recommendation:

Mobil believes that the 3-year "leakless equipment" replacement schedule on thousands of pieces of equipment in a single refinery is unreasonable and should not be implemented. Further, that setting forth a violation counting system for single leak detections on all these pieces of equipment by a District staff member is unwarranted, not cost effective and a counterproductive police-type action. Penalties for non-intentional leak discoveries, most of which would be minor leaks, could defeat the concept of the "self enforcement" program by refinery operators which we believe should be the only program for this item implemented under Tier 1.

B-14 CONTROL OF EMISSIONS FROM OIL FIELD STREAM GENERATORS (NOx)

AQMP Proposed Control Measure:

Implement NOx controls using one or more of five different NOx emission control technologies ranging from oxygen trim systems to low NOx burners to selective catalytic reduction (AQMP estimated NOx control costs to range from \$2,000 to \$6,000/ton of NOx for combustion modification and \$6,000 to \$22,000/ton for catalytic reduction.)

Mobil's Comments and Recommendation:

Mobil believes NOx reductions in oilfield pipeline or refinery equipment should be delayed until ROG controls have been implemented and only then after the effect of their implementation on the ozone problem is determined.

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Item

B-15 CONTROL OF EMISSIONS FROM PETROLEUM REFINERY HEATERS AND BOILERS (NOx)

AQMP Proposed Control Measure:

To reduce NOx emissions through the application of the flue gas treatment technologies in refinery heaters and boilers. Options include flue gas treatment with ammonia then passing gas ammonia mixture over a catalyst bed or use of methanol fuel (control costs are estimated to be \$5,300 to \$14,900/ton of NOx).

Mobil's Comments and Recommendation:

Refiners are currently in the initial stages of complying with the recently adopted NOx rules, 1109 and 1146. Mobil urges that this item and other NOx control measures be deferred so as not to adversely affect the ROG reduction measures on ozone attainment.

I-3 CONTROL OF EMISSIONS FROM MARINE VESSEL TANKS OPERATIONS (ROG)

AQMP Proposed Control Measure:

To reduce ROG emissions through control of marine vessel operations in four areas: loading; lightering; ballasting; and housekeeping. (Control costs are estimated in the AQMP to range from \$400 to \$4,400/ton of ROG for Housekeeping Control and up to \$934,000/ton of ROG for Ballasting Operations.)

Mobil's Comments and Recommendation:

Mobil urges the District to recognize the primacy of the Coast Guard in the issue of Marine safety and defer any requirements for vapor recovery during loading operations until a Coast Guard study on this issue is completed about February 1989. The EPA has written to the Commandant of the Coast Guard and acknowledged their primacy relating to safety of the vessel on this issue. Once appropriate national safety standards are established by the Coast Guard, the industry will require the better part of a year to submit plans and designs to the Coast Guard and receive their approval. After design approval it would require a full two year period for acquisition, fabrication, installation, testing and certification of these very new systems. Therefore, it is urged that any control measure for emission controls during loading be deferred until at least three years after completion of the Coast Guard's final rulemaking.

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Item

B-9 CONTROL OF EMISSIONS FROM GAS FIRED PETROLEUM REFINERY PROCESS HEATERS (PM)

AQMP Proposed Control Measure:

Reduce particulate matter (PM) emissions from refinery process heaters by the use of end-pipe controls such as electrostatic precipitators or baghouse filters. Since these control technologies are continuously being refined, the selection of a particular control technology should be left to the concerned industry. (Control costs are estimated by the AQMP to be \$12,000/ton of PM.)

Mobil's Comments and Recommendation:

Mobil urges that this proposed control measure be deleted from the Tier I items as being far more costly than estimated by the AQMP and included on the list of Tier II or III items to await a technological breakthrough. Meanwhile a more realistic estimate of the actual PM emissions should be developed by industry and by the SCAQMD.

B-10 IMPROVED CONTROL OF EMISSIONS FROM PETROLEUM REFINERY FLUID CATALYTIC CRACKING (FCC) UNITS, (PM)

AQMP Proposed Control Measure:

District Rule 404 currently regulates particulate matter (PM) from FCC units with specified emission limits. The AQMP proposed to reduce PM emissions resulting from the release of catalyst and carbon during the FCC unit regeneration process and also reduce coke/carbon emissions from the regeneration unit. Proposed methods are to improve operation of electrostatic precipitators and cyclones presently installed or replace with newer more efficient models or to hydrotreat FCC feedstock to reduce SOx emissions which will reduce PM emissions

Mobil's Comments and Recommendation:

Mobil opposes implementation of this item until reasonable technology is proven capable of meeting tighter standards on a consistent basis. Again, as in the cost of Item B-7, an installation of this type requires years of planning and lead time for construction and still is not proven regarding subject emissions. Therefore, this item needs to be addressed on an individual refinery basis with maximum leeway given as to choice of method and reasonable timing permitted for implementation and emissions testing.

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Item

B-11 CONTROL OF EMISSIONS FROM OCS EXPLORATION, DEVELOPMENT AND PRODUCTION
(ALL POLLUTANTS)

AQMP Proposed Control Measure:

To specify technologies to be used to control emissions of NOx, SOx, ROG, CO and PM from OCS operations regarding both the exploration phase and the development and production phase of offshore oil operations. Technology choices specified by the AQMP range from an I & M program for fugitive ROG emissions to a shift to all electric platform operation. (Control costs are estimated in the AQMP to be \$24,800/ton of ROG and \$16,200/ton of NOx.)

Mobil's Comments and Recommendation:

Mobil recommends removal of this item from the AQMP. It is much too broad to be considered as a control measure to be implemented as the others proposed in Tier I. As we have stated for other items, ROG should be addressed first before implementing NOx controls to avoid worsening the ozone problem. Further, the rulemaking negotiations already in progress on this issue as a result of a court order make this item premature, possible redundant and likely in conflict regarding jurisdiction.

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Shell Oil Company • Shell Chemical Company

A Division of Shell Oil Company



OC 31 1988

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RESPONSES TO COMMENTS
SHELL CHEMICAL COMPANY (10/27/88)
COMMENT LETTER #18

October 27, 1988

Dr. James Lents
Executive Officer
South Coast Air Quality Management District
9150 Flair Drive
El Monte, California 91731

Attention: Suzanne Reed

Dear Dr. Lents;

We appreciate this opportunity to comment on the draft Air Quality Management Plan (AQMP), designed to bring the LA Basin into compliance with Federal ambient air quality standards. In general, we support the efforts of South Coast Air Quality Management District and South Coast Association of Governments because we believe an attainment plan developed by state and local agencies, is preferred over a plan developed and imposed by the Environmental Protection Agency (EPA).

We believe that "attainment" is possible and at an acceptable societal cost. However we also believe that to proceed on anything but the most carefully studied path, will probably result in continued non-attainment while adversely impacting the economy and a reduction in the quality of life, particularly among those in the lower socio/economic groups. We believe the Environmental Impact Report (EIR) which was developed for the SCAQMD attainment plan is inadequate to define the true impact on the basin and population. It must be expanded so the specific decisions regarding attainment can be made while assuring a continuing viable economy, acceptable air quality improvements and accommodating a changing lifestyle.

We have participated with Western Oil and Gas Association (WOGA) and California Council for Environmental & Economic Balance (CCEEB) in review and development of their comments which they are submitting separately. We will therefore limit our comments at this time to underlying principles and premises which we believe are critical to the successful attainment of ambient air quality standards. This seems appropriate in light of AQMP complexity and it's necessarily broad nature at this point of it's development. We do this, believing there will be future opportunities to address specific items or classes of action during the regulatory development process.

18-1

Please refer to the response for comment 2-12 as well as to Section 1 of the Executive Summary which is part of this Addendum under separate cover.

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Business, industry and the regulatory agencies have a long history of working together to resolve environmental issues in the LA Basin. This must now be expanded to include the "local governments" and the "general public".

Bringing all of these interests together poses a significant challenge.

The automobile is the single largest contributor to non-attainment. While attainment cannot be accomplished with controls on the automobile only, it must play a major role if attainment is to be achieved.

Ozone and PM10 non-attainment are influenced by a complex interaction of nitrogen oxides (NOx) and reactive organic gases (ROGs). We urge early regulatory emphasis be focused on ROGs, to assure the quickest reduction of ozone and PM10 levels.

The sources and conditions contributing to non-attainment are many and complex in nature. A broad range of response activities will be required to maximize the potential for reaching attainment.

The greatest potential for achieving long term and meaningful progress towards the attainment goal will require changes in public lifestyle, and the manner in which business is conducted.

Consumer product changes are among the steps that need to be taken on the path to attainment. However such changes have the potential for introducing, an as yet undefined "health" or "environmental" risk.

Elaboration on these points with specific examples are contained in Attachment I.

We recognize as we are sure you do, there are no shortcuts or easy solutions to attainment. It cannot be left to "someone else". If there is anything less than participation across all of society, the L.A. Basin will likely continue to be one of "non-attainment".

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We have a challenging period ahead. One in which the general public, local government, regulatory agencies, business, industry, and academia need to work together to reach attainment of the ambient air quality standards.

R. J. Swafford
R. J. Swafford
Manager,

Wilmington Manufacturing Complex

RJS:ibm

cc: Mr. Mark Paisano
Executive Director
Southern California Association of Governments
600 S. Commonwealth Avenue
Los Angeles, CA 90005

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Attachment I

Business, industry and the regulatory agencies have a long history of working together to resolve environmental issues in the LA Basin. This must now be expanded to include "local government" and the "general public".

This business/industry/regulatory agency effort has resulted in a significant air quality improvement at a time of population and economic expansion. We believe a program of continued cooperation, expanded to include local governments and their populations, will allow attainment. It will require, as indicated by the AQMP, an expanded view of contaminant sources warranting controls. This will place a significant demand on all who reside and do business within the basin. We do not believe it must require Shell Oil Company to withdraw our manufacturing facilities from the basin.

Bringing all of these interests together poses a significant challenge to governing and regulatory bodies.

However, failure to do so and instead placing undue emphasis on the more traditional targets (large stationary sources), to the exclusion of other sources may bring a short term illusion of progress. In actuality such an approach will fail to come to grips with the fundamental causes, and lead to a further deterioration in air quality. Such a narrow approach will also have a significant, adverse impact upon the economy.

The automobile is the single largest contributor to non-attainment. While attainment cannot be accomplished with only controls on the automobile, it must play a major role if attainment is to be achieved.

The automobile should be the principle focus of this plan. Obviously there are significant political obstacles which make many of the controls difficult to achieve. Many, however, are far simpler to achieve and we support their pursuit from the outset:

Aggressive inspection and repair of emission systems on existing vehicles. This is very effective way to accomplish significant air quality improvements. A control system should be put into place that insures all existing automobiles are repaired so they emit no more pollutants than their original design.

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Improve emissions systems on new vehicles. A very significant second step is to provide incentives which promote further progress in the research and development of control systems that reduce emissions from mobile sources.

Implement changes in fuel quality that result in measurable and cost-effective emission reductions from mobile sources. The oil industry and the automobile manufacturers must continue to work together to identify opportunities for emission reduction through modifications to fuel quality.

Foster the increased use of car pools, van pools and mass transit. A lifestyle change by those in the LA Basin will be required as population growth further taxes the already overcrowded highway systems.

Continue the alternative fuel test program. Further information needs to be gathered to fully understand the environmental health and economic ramifications of methanol and other fuels.

Ozone and PM10 non-attainment are influenced by a complex interaction of oxides of nitrogen (NOx) and reactive organic gases (ROGs). We urge early regulatory emphasis be focused on ROGs, to assure the quickest reduction on ozone and PM10 levels.

The significant debate regarding the interaction of NOx and ROG on ozone and PM10 is unlikely to be resolved in the near term. While we do not propose to revisit the recently passed NOx regulation impacting the petroleum industry (SCAQMD Rule 1109), we believe it is desirable to defer further NOx controls and focus on ROGs. The benefit of this approach is a much faster reduction in ozone and PM10 levels while permitting only marginally higher NOx levels to exist for the interim period.

The sources and conditions contributing to non-attainment are many and very complex in nature. A broad range of response activities will be required to maximize the potential for reaching attainment.

Because of the broad range of activities needed to achieve compliance we recommend establishing a screening criteria for their evaluation. This criteria should include cost effectiveness as one of the considerations. Such an approach will provide the greatest air quality improvement for the resources expended as well as assuring the burden is spread as equitably as possible.

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The oil industry must also continue to do its part and make further progress in reducing ROG emissions. We support many of the AQMP control measures which are technologically feasible and cost effective.

Further reductions in fugitive emissions. This can be accomplished through increased inspections/maintenance of valves, pumps and compressors.

Source control. A vital part of any management plan, energy conservation and other process modifications will result in emission reductions.

Improve installation and repair of Phase I and Phase II vapor recovery systems. It is appropriate to focus attention on assuring that facilities now in place at distribution and marketing terminals are operated effectively.

The greatest potential for achieving long term and meaningful progress towards the attainment goal will require changes in public lifestyle, and the manner in which business is conducted.

To ultimately succeed it is essential for the public to continue to expand their understanding and acceptance of their unique and significant role in reaching attainment. The general population, in large part, still believes that business, industry and generally "someone else" is responsible for the current non-attainment condition.

Product changes are among the steps that need to be taken on the path to attainment. However such changes have the potential for introducing, an as yet undefined "health", "environmental" or "economic" risk.

Frequently a lack of knowledge allows one to assume that a proposed product is much more appealing than an existing product of which there is substantial knowledge. It is essential that product quality changes come only after there is a full knowledge base. Methanol is an example. While there is enough early information to say that methanol could have some role as "an" alternative fuel, it is far to early to state that it is "the" alternative fuel of choice.

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Texaco Refining and Marketing Inc
C T Walls
Manager
Los Angeles Plant

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213 835 8261

RESPONSES TO COMMENTS
TEXACO REFINING AND MARKETING (10/27/88)
COMMENT LETTER #19

October 27, 1988

Mr. J. M. Lents
Executive Officer
SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT
9150 Flair Drive
El Monte, California 91731

SUBJECT: COMMENTS OF DRAFT AIR QUALITY
MANAGEMENT PLAN (AQMP) AND SUPPORTING DEIR

Dear Mr. Lents:

Texaco Refining and Marketing Inc. (TRMI) is supportive of the primary goals of the Draft AQMP, which is to reach attainment with the Federal and State ambient air standards in the SoCAB. We commend the staffs of SCAQMD and SCAG on their efforts in developing and attempting to evaluate the impacts of the Draft AQMP. However, we have concerns that many key issues still remain unresolved and that the comparison of the proposed AQMP to reasonable alternatives contained in the Draft Environmental Impact Report (DEIR) is totally inadequate. TRMI was involved, as were other member companies, in the preparation and review of the comments submitted by WOGA on the Draft AQMP and DEIR. We support those comments and believe that they represent TRMI's concerns with regard to the specific deficiencies of the Draft EIR and AQMP. However, we would like to reiterate what we feel is the most important deficiencies.

19-1 The DEIR must provide a more detailed analysis of all reasonable alternatives to the project. We believe that there are indeed alternative paths to clean air. For a project of the magnitude of the proposed AQMP, the comparison of project alternatives should include results of air quality modelling runs which show the ambient concentrations in relation to time (i.e., 5 or 10 year intervals), economic and socio-economic impacts, cost-effectiveness of the overall plan in dollars per ambient air concentration improvement (ppm reduction), and impacts, both in relation to economic and environmental, outside the SoCAB. This type of quantitative comparison would allow all interested and/or affected parties a basis for adequately identifying the alternatives. Some of the factors noted above, specifically socio-economic and economic impacts within the SoCAB and impacts outside the SoCAB, are not adequately evaluated and documented for the proposed AQMP.

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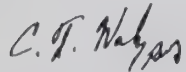
Please refer to the response for comment 2-12 as well as Attachment 2.

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19-2 A project alternative which maximizes ROG controls while minimizing and delaying implementation of NOx controls must be evaluated. Such an alternative or a variation of that alternative which establishes tail-pipe emission standards and stricter enforcement of those standards rather than mandating "clean fuels" should also be considered. We believe such a strategy may allow attainment of the ambient air standards with limited implementation of Tier II and Tier III control measures. It may also allow more expeditious attainment of Federal ozone standard. The benefits of an AQMP which maximizes ROG controls and minimizes and delays implementation of NOx controls on attainment of the ozone standard and limiting nitrate formation in the SoCAB must be addressed. If attainment can be achieved and maintained without the drastic socio-economic and industrial impacts which would result with full implementation of Tiers II and III, support from local governments, industry and the public should increase which would have a positive impact on the potential success of this major undertaking.

19-3 There are too many unanswered and/or unaddressed issues in the Draft AQMP and DEIR and not enough documentation of the basis on which project alternatives were selected, evaluated and rejected. We believe that these major deficiencies, as well as the specific concerns raised in the WOGA comments, must be addressed prior to consideration of adoption of the AQMP.

Yours very truly,



C. T. WALZ
PLANT MANAGER

RMS:tlc

cc: Mark Pesano
Executive Director
SCAG
600 Commonwealth Ave.
L.A., CA 90005

19-2

Your comment is noted. Please refer to Attachment 2 which provides a summary of the potential and feasibility of the suggested ROG-only and/or a high ROG/low-NOx control strategy in the Basin.

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Attachment 1 provides a summary comparison of all alternatives including that proposed by WSPA and SCE.

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RESPONSES TO COMMENTS
UNOCAL CORPORATION (10/27/88)
COMMENT LETTER #20

STATEMENT OF

DONALD L. HANLEY

UNOCAL CORPORATION

BEFORE THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ON THE

DRAFT 1988 AIR QUALITY MANAGEMENT PLAN

Santa Ana, California

October 27, 1988

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Mr. Chairman, my name is Donald Hanley and I am Vice President,
Health, Environment and Safety, of Unocal Corporation.

I would like to make four points in this statement regarding
the District's draft AQMP activities:

1. We want to note for the record that Unocal supports
testimony and other related input to the District
provided by Western Oil and Gas Association (WOGA), the
Los Angeles Area Chamber of Commerce, and the
California Council for Environmental and Economic
Balance (CCEEB).

We have had some of our best technical talent working
with these organizations in developing their input to
the District, and we join them in pointing out
problems, opportunities and recommendations.

2. The AQMP, as drafted, is clearly unworkable. The
District therefore should use the draft as a foundation
for developing a plan that is indeed workable, is
visibly protective of public health, and is acceptable
to the public.

Despite Herculean efforts likely made by District staff to produce the current draft AQMP and environmental impact report, I think all of us are acutely aware of the fact that the District has been given an assignment that is beyond its current resources and authorities.

Implementation of the AQMP as drafted certainly will produce some air quality benefits. But the economic and social costs are obviously enormous, while the public health benefits (perhaps even public health risks) are most uncertain. We feel that proceeding on this particular "Path To Clean Air" would open the door to some very real political and litigation risks, and other alternative paths that are being brought to the District's attention must be evaluated if those risks are to be minimized. And of course the relative merits and costs of each alternative must be made clear to the public.

1. Other speakers have pointed out technical flaws in the draft AQMP and EIR. Let me point out two others:

- Some very solid scientific data (Attachments I and II) support the fact that natural sources of hydrocarbons may produce two to three times the

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Appendices III A to C discuss the significance of natural hydrocarbon, its tonnages, and its contribution to the formation of ozone in the Basin. Please also refer to the response for comment 2-12 and to Section 1 of the Executive Summary which appears under separate cover in this Addendum.

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amounts of reactive hydrocarbons as manmade sources on a regional basis. And further that those natural hydrocarbons may be substantially more reactive photochemically so that they are disproportionately more important to the formation of ozone, to the formation of nitrate- and sulfate-based fine particulates, and possibly to the formation of acid aerosols and acid rain.

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cont

We understand that the District has given some consideration to these natural hydrocarbons, but it is not at all clear to us if the District has a good fix on the tonnages emitted within and entering the Basin, on the role of these hydrocarbons on the photochemistry, and on the impediments that emissions from biogenic and geogenic sources place on the ability of the Basin to meet the ambient standards.

Without such information, the District simply has no way of telling the public the extent of air quality and public health benefits (or risks) that can be expected from the proposed control measures. In turn, the public has no way of evaluating potential benefits and the associated economic and social costs. The result, of course, is that the draft Plan and EIR are seriously flawed.

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Appendices III A to C discuss the significance of natural hydrocarbon, its tonnages, and its contribution to the formation of ozone in the Basin. Please also refer to the response for comment 2-12 and to Section 1 of the Executive Summary which appears under separate cover in this Addendum.

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- Some highly technical studies have been underway at Carnegie Mellon University to examine the air quality effects of substituting methanol for gasoline and diesel in the Basin. Results published to date (Attachment III) provide food for thought:

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1. Modest improvements in vehicle emission control devices apparently would provide equal or better progress toward meeting the ozone standard than could be obtained from any rational methanol substitution scenario (Attachment IV). It would seem far more prudent to concentrate on improving those controls than to incur the risks associated with a major transition to methanol.

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2. If such a transition were to occur, releases of methanol into the Basin's air apparently would be equivalent to several truck-and-trailer loads each day (Attachment V). And since methanol is somewhat less photochemically reactive than gasoline, methanol would be expected to build up in the air, particularly on cloudy or foggy days. The potential health effects of such a build-up warrant careful investigation.

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The state of California, almost without exception, has the most stringent emission standards for motor vehicles in the United States. The ARB is continually revising these new vehicle standards downward, as quickly as available (or nearly available) technology permits. This includes standards for all categories of vehicles including: passenger cars, light-duty trucks, medium-duty trucks, heavy-duty trucks (both gasoline and diesel), and buses. Assembly Bill 2595 (the California Clean Air Act), recently signed into law, grants authority to the ARB to regulate previously unregulated mobile sources and explicitly specifies emissions reduction targets for mobile sources. Additionally, to ensure good in-use performance, the state government implemented the Inspection and Maintenance Program (Smog Check) in 1983. The program will soon be improved by changes authorized by the recently signed Senate Bill 1997. In summary, the most stringent standards and enforcement measures are being pursued in the area of mobile sources, and much more activity is planned for the future.

Using only the strategies of more stringent standards and the elimination of excess emissions, ARB emission estimates project a leveling-off of emissions reductions in the years 2000 to 2010. This necessitates the use of alternative, cleaner fuels as an emissions reduction strategy in order to continue to achieve emissions reductions beyond the year 2000.

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The use of methanol should lead to less reactive hydrocarbon emissions as well as to reduced nitrous oxide emissions. These are the two basic components of ozone, the pollutant for which the area experiences the most serious exceedances. Methanol, a replacement fuel for heavy-duty diesel vehicles, also significantly reduces particulate matter emissions. Additionally, methanol is expected to contain fewer toxic substances (such as benzene) than either gasoline or diesel fuel. For more information regarding the health effects of methanol, please refer to the response for comment 2-8 and to Attachment 6.

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Please refer to response for comment 2-8 and 2-51.

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And certainly the build-up of formaldehyde cannot be overlooked (Attachment VI). Formaldehyde is quite reactive photochemically and would be converted to smog on sunny days, but formaldehyde concentrations apparently could reach levels of concern particularly in confined areas and on cloudy or foggy days. Again, the potential adverse health effects are very real; and again, the draft Plan and EIR are flawed because of inadequate coverage of this risk.

4. My fourth point, Mr. Chairman, should be rather obvious by now.

The draft AQMP, if implemented as written, would ask the residents of this Basin, and quite possibly residents outside the Basin, to pay a high price for some very uncertain air quality and health benefits.

We believe the public is sensitive to the "truth in advertising" concept, and would not only support, but actively encourage, development of a plan that would specifically relate the benefits that could be expected from proposed control strategies with the social and economic prices that would be paid by the public.

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The draft AQMP is a good starting point. We urge the Board to clearly identify it as such, and to use these hearings as a means of building support for the scientific, economic, social and political resources that will be essential for development of a productive and acceptable plan.

There is need to move promptly, with leadership and statesmanship, but there is no need for hasty, ill-conceived measures or for undue concern over federal sanctions. EPA and key members of Congress have repeatedly indicated their willingness for California and the District to take the lead on this effort, and as long as we keep moving forward any threat of sanctions should not deter us from preparing a truly workable, productive and acceptable plan.

So let's do the job right, let's work together, and let's get on with it.

I would welcome any comments or questions.



THE IRVINE COMPANY

RESPONSES TO COMMENTS THE IRVINE COMPANY (10/27/88) COMMENT LETTER #21

October 27, 1988

James Lents, Ph.D.
Executive Director
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

Dear Dr. Lents:

We appreciate the opportunity to review and comment on the Draft 1988 Air Quality Management Plan and EIR. The attached comments and recommendations describe our support in concept for many AQMP proposals, as well as our continuing concern with several key areas.

We have focused our comments to areas of most concern to us and believe that three major issues essential to the AQMP's success must be reconciled prior to adoption of the Plan:

First, the draft document should state clearly that the AQMP is a framework for further action. Control measures and criteria described in this framework are conceptual, and will take their final form during the rule and regulation development process following AQMP adoption. Thus, implementation measures and criteria suggested in the AQMP will be modified as necessary during the rule development stage in order to achieve workable, effective controls. Projections or approaches cited in the AQMP for illustrative purposes are not binding on the rule process.

Second, the adoption schedules for the AQMP DEIR and the Regional Growth Management and Mobility Plans have unfortunately become entangled. Due to the late release of the Growth Management and Mobility plans for public review, and the unavailability of the DEIR's for these plans during the AQMP review period, local governments, business, and the broader community are unable to fully assess and comment upon the AQMP's draft land use and transportation control measures. Since these measures are pivotal to public support and the Plan's ultimate success, we urge the District to delay adoption of the AQMP and DEIR until adequate public review and comment is concluded.

Finally, we support the concept of jobs/housing balance in the region. However, the draft AQMP proposes quantitative shifts of

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Your comment is noted. CEQA Section 15087 (c) permits public review periods ranging from 30 to 90 days with a standard 45-day public review period for most documents. To date the AQMP EIR has been available for comment a total of 104 days. The dates are as follows:

- a) September 12, 1988 to October 27, 1988 -- Initial 45 day review of the Draft AQMP EIR
- b) December 2, 1988 to December 16, 1988 -- 14 day review period for the December EIR
- c) December 19, 1988 to February 1, 1989 -- 45-day review for the December EIR

The public review and comment period for the AQMP EIR exceeds that required and allowed by CEQA and CEQA Guidelines.

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James Lents
Page Two
October 27, 1988

21-2 future jobs and housing that do not reflect the real world of present land use patterns and that, as a consequence, fail to allow local governments the opportunity to fashion jobs/housing strategies responsive to the characteristics of local and regional land uses. Instead of the current quantitative approach, we recommend that the District and SCAG adopt a growth management measure based on performance criteria designed to improve jobs/housing balance. This approach would better reflect real world conditions by relating to the number of employed persons per household, as well as the number of jobs per household. A performance-based program would emphasize incentives for balance, would provide local governments and subregions with the flexibility to design appropriate programs for their area, and would avoid major social and economic dislocations associated with punitive control measures such as infrastructure quotas.

Our attached comments elaborate on these key points. Your staff has been most helpful in discussing these recommendations and concerns and exploring possible resolutions. We intend to work closely with District and SCAG staff to address these comments. In the meantime, we urge that the SCAG and District Boards address the adoption schedule conflicts in order to facilitate resolution of these critical portions of the proposed AQMP.

We look forward to working with you.

Sincerely,


Gary H. Hunt
Senior Vice President

GHH:ah

cc: Don Griffin
Mark Pisano
Henry W. Wedaa
Harriett Weider
A. Norton Younglove

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The detailed impacts of individual control measures will be addressed during the implementation process. Implementation of the tactics identified in the Plan will only occur after a regulation is adopted pursuant to authority granted the District or ordinances enacted by local governments. The EIR for the AQMP is intended to serve as a base document within the tiered system.

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The Irvine Company's Comments on the Draft 1988 Air Quality
Management Plan
Revision, September 1988

October 27, 1988

AQMP Strategy

We support the District's and SCAG's efforts to define a comprehensive approach to meet the federal air quality standards in a timely manner. We suggest that the greatest attention should be paid to selection of cost effective measures, and implementation and funding methods, particularly for control measures being proposed without precedent.

Cost Effectiveness

The AQMP should be composed of cost-effective measures. Public support for the AQMP will be undermined if additional expenditures and effort do not translate into proportionate health and public safety improvements. We support a broad interpretation of cost-effectiveness that balances air quality goals with other societal, economic and environmental goals.

At present, cost-effectiveness rankings are not available for transportation, land use and energy conservation measures which play a critical role in the composition and success of the AQMP. Without this information, it is impossible to evaluate key control measures such as growth management, which is credited with achieving 33% of emission reductions forthcoming from land use, transportation and energy measures. Many of these measures are also being separately proposed as solutions to the region's mobility needs; the ability to achieve dual air quality and traffic benefits with a single program should be recognized in the AQMP.

We recommend that the District and SCAG compile a single chart to compare the cost-effectiveness of the measures proposed in Appendices IV-A and IV-G.

Cumulative Impacts

At present, the Draft AQMP and DEIR do not adequately address the cumulative impacts of control measures on a single source. For example, concurrent implementation of measures proposing controls on architectural coatings, low-emission building materials, and emission charges to force these technology improvements, plus developer fees to support some of the transportation infrastructure measures could amount to a

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Cumulative impacts are addressed in the EIR to the extent that they induce environmental impacts. During the rule adoption process these effects will be considered in detail.

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substantial surcharge on the already high cost of housing in the Basin. Similar examples could be cited for vehicle controls or stationary source controls. The final selection of control measures should acknowledge the synergy among measures not only in terms of air quality benefits, but also the cumulative costs and impacts that multiple controls will impose.

We recommend that the District and SCAG construct a matrix which summarizes all of the impacts on a source category.

Implementation and Funding

Revised Draft Appendix IV-G responds to our earlier recommendation that greater attention be paid to implementation alternatives, and in particular the need for local government commitments. Funding needs and sources are presented in somewhat less detail. As a result, cost-effectiveness determinations are hampered. Some measures can be accomplished only with commitment of public funds; cost estimates and funding source alternatives are essential for these.

Tier I vs. Tier II vs. Tier III Designation

We further recommended that Tier I, Tier II, and Tier III measures be based not only upon technological readiness, but also feasibility in terms of local government/agency financial commitments and industry ability to implement. Moving a measure from Tier I to Tier II should not be viewed as a license to delay action, but rather as a determination to implement the measure as soon as practicable. SCAG has reflected this recommendation in its revised Appendix IV-G. The District should also make tier designations in Appendix IV-A proposals based on the ability to fund and implement regulations as well as the availability of technology.

Adoption Schedule

The lack of synchronization between SCAG's adoption schedule for the Regional Growth Management Plan and Regional Mobility Plan and the joint District/SCAG adoption of the AQMO is more serious than at first appeared, with little time to respond to comments and make adjustments in the final documents.

First, fundamental discrepancies affect the Growth Management Plan preferred projection, GMA-4; it is unclear at this time whether they will be resolved sufficiently prior to AQMP adoption if at all. Second, the Draft Growth Management and Mobility Plans and their DEIR's were not available to the public at all. This means that changes in the Growth Management Projections and Regional Mobility Plan which underpin the AQMP will not be available for public consideration prior to adopting the AQMP. Without a schedule adjustment, adoption of the AQMP growth management measure will be tantamount to writing a blank cheque.

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We urge that the District and SCAG reach agreement on the appropriate set of baseline projections with all affected local governments, and that the AQMP adoption schedule be extended to allow adequate consideration of the full growth management and mobility proposals. As an alternative, the District should defer measures directly affected by the growth and mobility plans for later adoption.

Land Use Controls

Growth Management

We support in concept the proposal to achieve lower emissions by improving jobs/housing balance throughout the region. This said, we believe that the ultimate success of the jobs/housing balance measure will depend upon three issues: a defensible projection as the foundation for jobs/housing balance; refinement of the jobs/housing balance concept; and implementation and enforcement mechanisms for the measure. We currently have reservations about the status of these sections of the AQMP:

Growth Projections

The unresolved discrepancy between Orange County's OCP-88 growth projection and SCAG's GMA-4 growth projection raises serious questions about the ability to implement jobs/housing balance and transportation control measures as well as their environmental and economic impacts. Orange County ties land use and development approvals to its OCP-88 projection, which is consistent with forecasts prepared by the State Department of Finance. SCAG, SCAQMD, state and federal agencies could deem projects inconsistent with the AQMP if they are consistent with the County's projections. Both development and transportation projects could be affected by this discrepancy.

This is a serious conflict that must be resolved prior to adoption of the AQMP. Specifically, SCAG and the County need to resolve which fertility assumptions and land use constraints will be reflected in the adopted projections.

Emission Reduction Estimates

Revised Appendix IV-G estimates that 33% of all mobile and indirect source emission reductions will come from the jobs/housing balance measure, a major part of regionwide emission reductions expected from the AQMP. The current discussion is inadequate to evaluate the measure's potential for effective emission reduction. A full presentation of data and assumptions underlying this measure needs to be provided, especially since growth management is an untested emission control method which could create major economic and social dislocations.

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Job Participation Assumptions

Job participation rates vary for households in different parts of the Basin. SCAG's working definition of "job-rich" (areas where the employment-to-housing ratio exceeds .55) is inappropriately low for many urbanized and urbanizing portions of the Basin, and is well below the existing and projected regional jobs/housing ratio. Jobs/housing balance schemes should recognize the continued need for enough jobs to meet the needs of households that depend on multiple incomes. For example, Orange County's housing profile reflects a high percentage of two-worker households. This trend is expected to increase in the future. Jobs/housing balance criteria should take into account regional and subregional differences in the number of workers per household. Flexibility in setting jobs/housing balance targets is both necessary and desirable to avoid significant adverse economic impacts on households in the Basin. We believe that incentives to direct new jobs and housing to appropriate areas should be favored over the kind of dislocations emphasized in versions of Appendix IV-G, and needs to be resolved prior to adoption.

Local Revenue as Key Determinant of Housing

Recognizing and removing fiscal obstacles to jobs/housing balance will be essential. Different strategies will be needed to attract housing to job-rich areas, than to draw jobs to housing-rich areas. Again, incentives rather than dislocations of job and housing growth should be favored. The current manner in which local governments raise revenues is a key impediment to this goal. Local governments favor land uses that attract tax revenues, such as shopping centers and office complexes, over housing because residential uses tend to generate public service needs in excess of tax revenue from housing. As a consequence, local governments encourage retail and office. In short, the present tax structure does not reinforce air quality goals. Again, neither the June nor September, 1988 versions of Appendix IV-G respond to this concern.

We recommend that the Appendix IV-G acknowledge the impediment posed by the current revenue system, and identify promising revenue-sharing schemes, and other economic incentives and disincentives that local governments can pursue to reduce the public service cost deficit associated with residential development.

Implementation Strategies

Appendix IV-G does not present a broad enough menu of jobs/housing balancing options for local governments to consider. Each subregion must be allowed to formulate the combination of incentives and controls that it finds most

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cost-effective and reasonable in relation to local conditions and existing development patterns. Instead, the implementation discussion jumps to the conclusion that sewer allocations are necessary to control the location of jobs and housing. We do not agree with this conclusion. In fact, SCAG's Draft Growth Management Plan identifies more than 30 different implementation measures (A1-1, Appendix 2), only one of which involves infrastructure allocations of any type.

A jobs/housing balance measure based on performance criteria and implemented through an incentive program would be productive. For example, performance standards could include parking design to facilitate ridesharing and HOV access, and incentives for housing in walking distance to jobs. As noted in our comment below on existing employment centers, for some housing-rich areas lacking land and transportation facilities to support employment centers, facilitating transportation access to job-rich areas may be more effective in reducing congestion and emissions than trying to induce employment growth where economic/market conditions are unfavorable. The implementation discussion does not address this kind of balancing method.

We recommend inclusion of the following language under Control Methods, page 226:

Local governments and subregions will be responsible for defining that number and type of appropriate efforts to achieve their jobs/housing balance target during the timeframe of the AQMP. Local governments are encouraged to define performance criteria and offer incentives and disincentives to achieve the desired jobs/housing ratio, rather than impose inflexible or punitive controls. Appendix I of the Draft Growth Management Plan identifies representative implementation measures that local governments can consider in formulating their jobs/housing balance programs.

Further, we recommend deleting discussion of sewer allocations as a control measure on page 231, as well as on all AQMP Commitment Schedule charts in the document.

Concentrated Employment Centers

We strongly urge that the District and SCAG modify proposed policies for employment generating development by differentiating between existing employment centers in urbanized or urbanizing areas, and jobs/housing balance criteria for newly developing areas. We have attached an exhibit from the Santa Ana Transportation Corridor Alternatives Analysis depicting the concentrated employment centers that have emerged in Orange County over the past two decades (the University of California, Irvine, is added as another major employment center.) As this exhibit portrays, Orange County has evolved into a metropolitan

area with defined major activity centers. Based on transit/High Occupancy Vehicle analyses conducted for Irvine Center and other components of the Irvine Spectrum, it is clear that the critical ingredient in the success of alternatives to single-occupancy vehicles is the existence of concentrated employment centers which allow for the effective use of transportation system management, ride-sharing, and transit access. If anything, regional air quality policies should encourage increased employment intensities in such centers. Although the Draft EIR for the AQMP recognizes the benefits of encouraging "a more formal network of centers including employment concentrations in current urbanizing areas: (p. 4-7-4), the Draft Growth Management Plan policies do not provide for encouraging existing concentrated employment centers or for differentiating the policy treatment of such existing major activity centers from the policy treatment for newly developing areas.

As a corollary to a policy of encouraging existing concentrated employment centers, we believe that the AQMP should favor the encouragement of more housing in reasonable proximity to such centers rather than deflecting additional employment development away from existing concentrated activity centers. In terms of the private market, government cannot mandate the many variables that influence the siting of employment activities, including factors such as the composition of the existing labor force and proximity to major universities. Although government can influence infrastructure siting, such factors are of lesser significance in high technology and information/financial services fields that do not rely on the transportation system extensively to move their products. Accordingly, we believe that AQMP policies would be far more effective for Orange County if they encouraged additional housing near existing employment centers, rather than attempting to channel employment development away from concentrated employment centers to "housing-rich" areas.

We urge that the AQMP policies differentiate between existing and newly developing employment centers in the following ways:

- 1) Encourage further intensification of existing employment centers supported by the necessary infrastructure;
- 2) Encourage housing development in proximity to such centers;
- 3) Recognize the higher ratio of wage-earners per household in areas such as Irvine when quantifying proposed jobs/housing balance policies; and
- 4) Address the fiscal disincentives to providing new housing.

Our recommendation does not modify the AQMP's proposed job/housing balance policies for newly developing areas.

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Transportation Controls

Alternative Work Schedules and Locations and Telecommunications (1A-B)

We support the intent of the work schedule and telecommunications measures. We recommend that businesses be free to determine the methods by which they achieve work trip reduction targets, and that each firm or Transportation Management Association be allowed to determine the split between alternative scheduling and telecommunications/teleconferencing efforts needed to achieve the targets. This flexibility will ease managerial concerns identified as a major implementation barrier in the draft Policy Proposals document, while meeting the emissions and Vehicle Miles Traveled reduction goals set for these measures. Neither the June nor September, 1988 versions of Appendix IV-G distinguish between urban and urbanizing areas' different trip reduction potential.

The Draft AQMP and Appendix IV-G should clearly state that employers will/may design their own combination of efforts from those suggested by the AQMP to meet trip reductions targets.

We recommend inclusion of the following language:

Employers and Transportation Management Associations shall be responsible for selecting and implementing efforts capable of achieving their trip reduction target for alternative work schedules and locations. Employers may meet the target through alternative schedules and locations, or telecommunications, or a combination of both.

Trip reduction targets will distinguish between urban and urbanizing portions of the Basin, and employer compliance will be phased over 2 to 5 years.

Results achieved through these two measures shall count toward employers' performance on Regulation XV.

Mitigation credits for teleconferencing will be logically extended to credit trips avoided through telecommuting.

Mode Shift Strategies (2A-G)

We support the intent of these measures that extend the requirements of Regulation XV to businesses with 25 or more employees. We recommend that employers receive the flexibility to mix and match these efforts to achieve the desired transit mode shift, as some measures may be inappropriate for a given industry or geographic location. Availability of transit alternatives should be a consideration in assigning a trip reduction goal. Trip reduction targets for businesses of 25 or more should not necessarily be the same as for larger businesses

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presently covered by Regulation XV. While SCAG expects a 6% mode shift Basinwide from these measures, 6% may not be a realistic target for individual businesses or Transportation Management Associations. These concerns are acknowledged in the "Implementation Issues" discussion but no resolution is recommended.

Parking Management (2B)

In order for emission reductions due to parking management to be permanent, local governments must reflect reduced parking requirements in local land use and zoning ordinances. It is unclear whether a "cap" on the number of parking spaces permitted for a particular use will achieve the same results.

We recommend that the Appendix IV-G explicitly call for local governments to reduce parking requirements as a means of parking management.

Traffic Flow Improvements (4)

Signal synchronization, intersection channelization, and ramp metering should be encouraged as project mitigation measures that achieve both traffic and air quality benefits. We suggest that any fee programs include all employment generating activities that cumulatively affect traffic. The September revision of Appendix IV-G does not respond to this recommendation.

Freeway Capacity Enhancements (13)

We support inclusion of this measure in the final AQMP. As an example of its effectiveness, the San Joaquin Hills Corridor EIR has documented air quality benefits derived from providing new, uncongested access in an area that has saturated the peak hour capacity of the road system. We further recommend that toll road concept to fund new routes, as an alternative to slow or nonexistent government funding. Developers who contribute to freeway capacity enhancements that would serve their projects should be given air quality mitigation credit for their efforts. We recommend that toll funding be specified as an alternative funding source, and that mitigation credits be included as desirable incentives to such funding and construction.

Development-Related Controls

Low Emission Methods and Materials for Building Construction (F-9)

We agree that this measure would be beneficial but that the technology is not yet available to place it in Tier I. As the District has not yet been able to specify which known

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technologies can be extended most fruitfully, we foresee that this measure will overlap into Tiers II and III. We recommend close coordination with construction trade organizations such as the Building Industry Association of Southern California and the Association of General Contractors to identify and encourage potential low-emission technology advancements.

The current Draft AQMP is unclear about this measure's status. While it is still identified as a Tier I control measure (Table 4-7), it is not included in the ranked implementation schedule of Tier I measures (Table 6-1).

We recommend that the measure be placed in Tier II at this time.

Comments on the Draft Environmental Impact Report for the 1988 Revision to the Air Quality Management Plan

The Irvine Company has reviewed the Draft AQMP in conjunction with the Draft EIR. Due to the inadequacies cited for several key land use and transportation control measures, we also find the Draft EIR to be incomplete in describing the impacts associated with these measures:

- 21-4 - Cumulative Impacts: The Draft EIR does not adequately address the cumulative impacts of control measures on a single source. For example, multiple controls on indirect and stationary source emissions related to housing could cause significant, longterm housing impacts. Individually, these measures might not affect the availability of affordable housing but in concert they could result in fewer affordable units. Cumulative impacts also need to be addressed for other types of mobile and areawide controls.
- 21 5 - Implementation Impacts: The Draft EIR does not succinctly address the impacts of partial or incomplete implementation of control measures. For example, implementation of the growth management measure will be difficult to achieve uniformly across the Basin, and partial or uneven implementation could result in unintended transportation, housing and public service impacts.
- 21 6 - Regional Growth Management Plan DEIR and Regional Mobility Plan DEIR: The Draft EIR incorporates these two documents by reference. They are intended to provide essential information on the impacts of the land use and transportation control measures. However, these two SCAG documents were not released until October 21st, only four working days prior to the close of the public comment and review period for the Draft AQMP and Draft EIR. For all

21-4 See the response for comment 21-3.

21-5 Please see the Attachment 1 discussion of alternatives.

21-6 Your comment is correct. The GMP and RMP are subject to separate CEQA public review periods. Comments on the plans will be considered in the context of the AQMP decision. The public has been afforded the opportunity to comment on all of the plans, and commentors may continue to do so at the public hearing on the AQMP and EIR. Also please see the response for comment 21-1.

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intents and purposes, these important documents were unavailable for inclusion in the Draft EIR during the official review period. Thus, the Draft EIR is incomplete and inadequate with regard to the impacts associated with land use and transportation control measures.

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- Growth Management Job Participation Rate Assumptions: The Draft EIR does not adequately explain the housing, transportation, public service and economic impacts of the job participation rate of .55 employees per household selected for Measure 17, Growth Management. Nor does the DEIR describe the impacts associated with alternative jobs/housing ratios for comparative purposes.
- Growth Management Impacts on Employment Centers: The Draft EIR does not present an adequate discussion of the impacts of jobs/housing balance measures upon major employment centers.
- Growth Management Impacts on Local Revenues: The Draft EIR does not describe in adequate detail the impact of jobs/housing balance on local government income, particularly for those in areas affected by significant job or housing shifts.
- Mode Shift Strategy Impacts: The Draft EIR does not address conditions that would occur if employers of 25 to 100 employees were assigned a trip reduction goal other than 6%.

We urge that these deficiencies be addressed and reconciled prior to adoption of the AQMP and finalizing the EIR.

21-7

21-8

21-9

21-10

The jobs/housing ratio for 1984 is 1.25 and for 2010 it is 1.22; the 0.55 ratio is not used anywhere (see Chapter VII of the GMP).

The GMP includes the policy to encourage growth in and around centers, transportation nodes and corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment. Centers are also examined in the Urban Form Analysis paper in the GMP (see Appendix 3).

Please see the response for comment 9-4.

The detailed impacts of individual control measures will be addressed during the rule-making process. Implementation of the tactics identified in the Plan will occur after a regulation is adopted pursuant to rule-making authority granted the District or ordinances enacted by local governments. The EIR for the AQMP is intended to serve as a base document within the tiered system.

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DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT CORPS OF ENGINEERS
P.O. BOX 2711
LOS ANGELES, CALIFORNIA 90057-2725

OCT 28 1988

October 18, 1988

RESPONSES TO COMMENTS
ARMY CORPS OF ENGINEERS (10/18/88)
COMMENT LETTER #22

Office of the Chief
Environmental Resources Branch

Ms. Suzanne Reed
Special Projects Coordinator
South Coast
Air Quality Management District
9150 Flair Drive
El Monte, California 91731

Dear Ms. Reed:

We have reviewed the Draft Environmental Impact Report (DEIR) for your Air Quality Management Plan 1988, as requested in a letter from your office, dated September 12, 1988.

The proposed plan does not conflict with navigation, flood control, or existing or authorized plans or programs of the Corps of Engineers. We have no comments on the DEIR.

Thank you for the opportunity to review and comment on this document.

Sincerely,

Robert S. Joe
Chief, Planning Division

22-1

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

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ASSEMBLYMAN ROSS JOHNSON
CALIFORNIA LEGISLATURE

September 12, 1988

James M. Lents, Ph.D.
Executive Director
South Coast Air Quality Management
9150 East Flair Drive
El Monte, California 91731

Dear Dr. Lents:

Several cities in my Assembly District were recently asked to submit comments in response to the Board's proposed new policy, "The Path to Clean Air". As our area would be widely affected by any change in existing policies, the right to comment on such changes is of great importance.

23-1

In this instance, however, it appears that the unavailability of appendices, combined with the unusually short period of time permitted, made it nearly impossible for the cities to conduct a full review of the proposal. I sincerely hope that this oversight will be remedied before consideration of the proposed changes is permitted to continue.

I would very much appreciate being advised of your efforts in this regard.

Sincerely,

A handwritten signature in cursive script that reads "Ross Johnson".

ROSS JOHNSON
Assemblyman, 64th District

RJ:co

RESPONSES TO COMMENTS
ASSEMBLYMAN ROSS JOHNSON (9/12/88)
COMMENT LETTER #23

23-1

Thank you for your comment. In response to your concern as well as others, the AQMP EIR has been available for comment a total of 104 days. These dates are as follows:

- a) September 12, 1988 to October 27, 1988 -- Initial 45-day review of the Draft AQMP EIR
- b) December 2, 1988 to December 16, 1988 -- 14-day review period for the December EIR
- c) December 19, 1988 to February 1, 1989 -- 45-day review for the December EIR

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RESPONSES TO COMMENTS
CITY OF IRVINE 10/26/88
COMMENT LETTER #24

October 26, 1988

Ms. Suzanne Reed
Special Project Coordinator
South Coast Air Quality Management District
1150 Flair Drive
Irvine, CA 92714

Dear Ms. Reed:

SUBJECT: AIR QUALITY MANAGEMENT PLAN 1988 - DRAFT ENVIRONMENTAL
IMPACT REPORT (DEIR)

The City of Irvine has reviewed the subject document and would
like to submit the following comments.

General Comments

The City of Irvine has prepared an extensive letter of comment
on the Draft Air Quality Management Plan (AQMP). These comments
pose many questions about the content and the feasibility of
implementation of the plan. Since this information is
applicable to the analysis of the environmental impact of the
AQMP, the letter of comment is incorporated by attachment to
this letter of comment on the DEIR.

The City of Irvine is concerned about the level of detail of the
analysis throughout the DEIR. The DEIR does not adequately
address the impacts of the adoption of the AQMP at the local
level. While we realize that the preparation of a specific
document is not feasible at this time, the DEIR should, at a
minimum, identify the subsequent actions which will require
further in-depth environmental analysis at the local level prior
to implementation. How will the identified mitigation measures
be incorporated into the AQMP?

The DEIR unrealistically addresses the South Coast Air Quality
Management District as a closed system. The DEIR does not
consider how attainment of AQMP's goals will be affected by
surrounding regions and actions by the State and Federal
agencies. The cumulative impacts section of the DEIR should
address this in accordance with CEQA.

24-1

According to Section 15151 of the CEQA Guideline:

"An EIR should be prepared with a sufficient degree of analysis to
provide decision-makers with information which enables them to
make a decision which intelligently takes account of environmental
consequences. An evaluation of the environmental effects need not
be exhaustive, but the sufficiency of the EIR is to be reviewed in the
light of what is reasonably feasible. Disagreement among experts
does not make an EIR inadequate, but the EIR should summarize the
main points of disagreement among the experts. The courts have not
looked for perfection but for adequacy, completeness, and a good
faith effort at disclosure."

24-2

Each AQMP issue has been addressed at a level of detail consistent
with the data available. Values are assigned and forecasts quantified
where feasible. More detailed impact evaluation will be presented
during rule-making or implementation of specific control measures

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24-3 The City of Irvine is also concerned with the review of this DEIR independently from the DEIRs for the Regional Mobility Plan and the Growth Management Plan. The AQMP DEIR refers frequently to the analysis in the DEIRs for the Regional Mobility Plan and the Growth Management Plan. The City does not believe that adequate review of the AQMP DEIR is possible without the concurrent review of the other documents.

Specific Comments

Page 4-1-33, Air Quality

24-4 The discussion of the environmental impact for the drive-through facility control measure seems to imply that the design of drive-through lanes will be required to be such that emissions created by idling vehicles is reduced. This is contrary to the measure which requires the ban of any additional drive-through facilities.

Page 4-1-33, Air Quality

24-5 The control measure for restricting passenger car registrations has been modified to be a contingency measure. Is it necessary to determine the impact since the measure is no longer included as a regular control measure?

Page 4-3-1, Plant Life

24-6 The mitigation in this section is unclear. How can revegetation through excavation of surface areas be implemented through approval or amendment of the General Plan?

Page 4-5-1, Noise

24-7 Screening highways with trees is not sufficient for noise mitigation. Vegetation does not mitigate noise impacts.

Page 4-7-1, Land Use Impacts

24-8 Explain more clearly how and to what extent the undermining of some control strategies that rely on transit development could occur due to "the deemphasis of major job centers" through telecommuting.

Page 4-10, Population

24-9 The City does not agree with the RHNA allocation for Irvine and has filed an appeal. The redesignation of land uses can have legal implications which should be acknowledged.

24-3 Please refer to the responses for comments 24-1 and 24-2.

24-4 Your comment is correct. This control measure has been revised from "Disincentives For Idling At Drive-Through Facilities" to "Banning of New Drive-Through Facilities". Please also refer to response to comment 7-18.

24-5 Your comment has been noted. It is no longer necessary to determine the impact since the measure is no longer included as a regular control measure.

24-6 General plan policies can require revegetation of disrupted (excavated) areas. The specific implementation for revegetation is imposed as a condition of approval when the local government issues an entitlement to develop or petition parcel of land.

24-7 Noise levels can be minimized by controlling hours of operation, and by controlling and designing the traffic flow of trucks and other construction-related vehicles *en route* to or from construction sites. Vegetation does mitigate noise impact somewhat, and screening highways with walls is part of noise mitigation.

24-8 Each AQMP issue has been addressed at a level of detail consistent with the data available. Values are assigned and forecasts quantified where feasible. More detailed impact evaluation will be presented during rule-making or during implementation of specific control measures.

24-9 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP

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Page 4-12-5, Transportation

The employer Rideshare and Transit incentive measure according to the AQMP identifies the possibility of expanding Regulation XV to include business and/or multiple tenant complexes with 25+ employees. Here it is being discussed as if it is a requirement.

Page 4-12-6, Transportation

How are areas targeted for specific mitigation measures to be identified? There is a need for the establishment of threshold criteria. What does the AQMD consider as a "sensitive land use?"

Page 4-12-19, Transportation

As indicated in previous comments to the SCAQMD, the City is not in agreement with SCAG's population, housing, and employment projections for Irvine. Therefore, an agreement on the projections should be attained prior to the adoption of the Air Quality Management Plan.

Page 4-14-4, Energy

By scheduling railroads at off-peak hours they cannot adequately serve a transit function.

Page 4-17, Human Health

Increased use of bicycles will likely increase the accident rates for bicycles. This impact and possible mitigation measures (i.e. development of more Class I bike trails) should be addressed in this section.

Page 4-18-11, Economic Impacts

The economic impacts of implementing telecommuting on employers should be addressed. Impacts include the cost of equipment and internal reorganization.

Page 4-18-14, Economic Impacts

the economic impacts of the redistribution of land uses on property owners should be addressed. The legal ramifications of possible "taking" should also be discussed.

2-10 As this control measure is currently envisioned, it would include a business with 25 or more employees. This is not a requirement currently, but will be evaluated in the rule-making process.

2-11 Each AQMP issue has been addressed at a level of detail consistent with the data available. Values are assigned and forecasts quantified where feasible. More detailed impact evaluation will be presented during rule-making or during implementation of specific control measures.

2-12 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

2-13 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

2-14 Each AQMP issue has been addressed at a level of detail consistent with the data available. Values are assigned and forecasts quantified where feasible. More detailed impact evaluation will be presented during rule-making or during implementation of specific control measures.

2-15 Your comment is noted and substantial additional information was provided in the December, 1988 EIR. In addition, based on the cost estimates generated for Tier I control measures, the socioeconomic impacts of the AQMP have been quantified for as many parameters as feasible. This analysis is summarized in Appendix F. Appendix F, distributed with the December, 1988 EIR, has quantified socioeconomic impacts of Tier I control measures the Regional Mobility plan, and the Growth Management plan in the AQMP. As the District moves through the process of rule development, the specific technical and economic feasibilities of each control measure will be evaluated in accordance with CEQA tiered review procedures. At that time, full scope socioeconomic impacts of each control measure will be addressed and assessed.

24-16 Your comment is noted. Please refer to the responses for comment 24-15.

page 4

Thank you for the opportunity to review this document. Please send three copies of the Response to Comments document when available. If you have any questions regarding these comments, please contact Jennifer White, Senior Planner, at 660-3755.

Sincerely,


LARRY AGRAN
Mayor

LA/JW/ss

cc: Steve Letterly, Principal Planner
Jennifer White, Senior Planner

disk: jw-reed

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CITY OF CULVER CITY

9770 CULVER BOULEVARD • PO BOX 507
CULVER CITY, CALIFORNIA 90230-0507

NOV - 1 1988

RESPONSES TO COMMENTS
CITY OF CULVER (10/27/88)
COMMENT LETTER #25

October 27, 1988

CERTIFIED MAIL -- RETURN RECEIPT REQUESTED

Ms. Suzanne Reed, Special Projects Coordinator
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

PROPOSED AIR QUALITY MANAGEMENT PLAN AND DRAFT ENVIRONMENTAL IMPACT
REPORT (EIR)

Dear Ms. Reed:

Please be assured that the City of Culver City is most interested in and committed to the attainment of air quality in the Los Angeles Basin. In the past, we have responded swiftly and responsively to implementation of the South Coast Air Quality Management Plan (Plan), revisions thereto and reasonable further progress reports. However, we have several reasons to be very concerned about the Draft 1988 Air Quality Management Plan and the manner in which it is being adopted.

First, we only obtained the Plan due to our attendance at the October 22, 1988, public hearing through Jackie Freedman, Project Planner. Although Ms. Freedman spoke at the hearing on Culver City's behalf, she hardly had opportunity to review it under the circumstances.

Second, it was not clear to Ms. Freedman from the Plan, the Draft EIR or presentations at the October 22, 1988, public hearing what specific implementation actions are expected of local jurisdictions, including Culver City. Therefore, it is difficult for us to meaningfully evaluate and comment on the Plan. South Coast Air Quality Management District (SCAQMD) representatives have begun a dialogue with local jurisdiction transportation representatives regarding the Plan and its relationship to Rule 1601 ("trip reduction"). A similar process should be initiated by SCAQMD with administrative and planning officials of local governments before proceeding to Plan adoption. We would welcome the opportunity to participate in such an educational process.

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Ms. Suzanne Reed, Special Projects Coordinator

Page 2

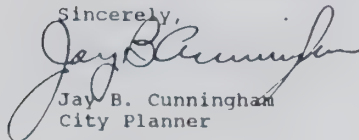
October 27, 1988

25-1 Third, the Plan suggests some severe measures in terms of potential effects on local businesses, land use and transportation. It seems many businesses may not be able to implement actions called for by the Plan and, thus, may have to cease to operate or relocate from the Basin. The Draft EIR broadly discusses economic impacts, but not in sufficient detail for one to truly understand the potential socioeconomic impacts to individuals, businesses and local agencies if the Plan is adopted and implemented. An SCAQMD staff member indicated at the October 22, 1988, public hearing that a socioeconomic analysis would be conducted, but that it was not likely to be completed until after adoption of the Plan. We believe the Plan should not be adopted until after the analysis is completed and local jurisdictions have had reasonable opportunity to review and comment on it.

Fourth, very few persons, and apparently only the representatives of two cities including ourselves, attended the public hearing on Saturday, October 22, 1988. Even if greater public participation occurred at the Monday, October 24, 1988, public hearing in Glendale, we believe a far greater public and local jurisdiction outreach by SCAQMD for input should be undertaken before proceeding to Plan adoption.

Please send all future notices, communications, etc., regarding the Plan, and direct any questions you may have concerning our comments to, Jackie Freedman, Project Planner.

Sincerely,



Jay B. Cunningham
City Planner

JBC:JF:ee

Copy: Mark Pisano, Executive Director, Southern California
Association of Governments

Paul A. Jacobs, Mayor

James D. Boulgarides, Vice Mayor

Richard M. Alexander, Councilmember

Steven Gourley, Councilmember

Jozelle Smith, Councilmember

Dale Jones, Chief Administrative Officer

Joseph W. Pannone, City Attorney

Jody Hall-Esser, Community Development Director

Gordon Youngs, Personnel Manager

Gary Audet, Municipal Services Director

Dave Ashcraft, Transportation Director

James S. Davis, City Engineer

Joan Kassan, Grants Coordinator

Jackie Freedman, Project Planner

25-1

Please refer to the response for comment 2-12 as well as to Section I of the Executive Summary which is part of this Addendum under separate cover.

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RESPONSES TO COMMENTS
CITY OF LAGUNA BEACH (11/14/88)
COMMENT LETTER #26

November 14, 1988

Ms. Suzanne Reed
Special Project Coordinator
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

Dear Ms. Reed:

On behalf of the City of Laguna Beach, I would like to express our City's conceptual support of the Draft Air Quality Management Plan and Draft Environmental Impact Report for that plan. The City of Laguna Beach believes that extraordinary efforts are necessary to provide a healthy environment for our citizens.

6-1 While we have not had an adequate opportunity to review all of the details of the draft plan, our City is in support of the goals and objectives. In particular, we support efforts to further reduce automobile emission levels, develop alternative work modes, reduce stationary source emissions, and require local agencies to consider air quality factors as part of General Plans.

Sincerely,

A handwritten signature in dark ink, appearing to read "Dan Kenney", is written over a horizontal line.

Dan Kenney
Mayor

cc: City Council
Mark Pisano, Executive Director of SCAG

26-1

Please refer to the response for comment 2-12 as well as Section 1 of the Executive Summary which appears under separate cover as part of this Addendum.

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CITY OF LOS ANGELES

CALIFORNIA



TOM BRADLEY
MAYOR

OFFICE OF
CITY CLERK
ROOM 395 CITY HALL
LOS ANGELES, CA 90012
485-5705

RESPONSES TO COMMENTS
CITY OF LOS ANGELES (12/21/88)
COMMENT LETTER #27

88-2183

December 21, 1988

Chief Legislative Analyst
City Administrative Officer
City Attorney
City Planning Department
Councilwoman Molina
Councilman Braude
Councilman Alatorre

South Coast Air Quality Management
District
9150 Flair Drive
El Monte, CA 91731

Southern California Association of
Governments
600 S. Commonwealth, Suite 1000
Los Angeles, CA 90005

RE: COMMENTS OF THE CITY OF LOS ANGELES ON THE DRAFT AIR
QUALITY MANAGEMENT PLAN AND DRAFT ENVIRONMENTAL IMPACT REPORT

At the meeting of the Council held December 14, 1988, the following
action was taken:

Attached report adopted as amended.....	X
" 2 motions adopted (Molina - Braude)	
.....(Alatorre - Braude).....	X
" resolution " ().....	
Ordinance adopted.....	
Motion adopted to approve attached report.....	
" " " " communication.....	
To the Mayor for concurrence.....	
To the Mayor FORTHWITH.....	
Mayor concurred.....	12-20-88
Appointment confirmed.....	
Appointee has/has not taken the Oath of Office.....	
Findings adopted.....	
Negative Declaration adopted.....	
Categorically exempt.....	
Generally exempt.....	
EIR certified.....	
Tract map approved for filing with the County Recorder....	
Parcel map approved for filing with the County Recorder...	
Bond approved is No. _____ of Contract.....	
Resolution of acceptance of future street to be known as _____ adopted.....	
Agreement mentioned therein is/are No. _____ _____ of Contracts.....	

(RESPONSE TO COMMENTS WILL BEGIN ON A FOLLOWING PAGE.)

Edis Martinez

000006

TO THE COUNCIL OF THE
CITY OF LOS ANGELES

Your CLEAN AIR ISSUES AD HOC Committee

reports as follows:

	Yes	No
Public Comments	X	

RECOMMENDATION

APPROVE, SUBJECT TO THE APPROVAL OF THE MAYOR, the Comments of the City of Los Angeles on the Draft Air Quality Management Plan and Draft Environmental Impact Report proposed by the South Coast Air Quality Management District, and AUTHORIZE the Mayor to transmit said comments to the South Coast Air Quality Management District and the Southern California Association of Governments (SCAG); as recommended by the Chief Legislative Analyst in his communication dated December 9, 1988.

27-1

Your request is noted and will be forwarded to the District Board and the SCAG Executive Committee for their consideration.

REQUEST that the City of Los Angeles be represented on all planning/study groups created to address clean air issues related to the Air Quality Management Plan, and AUTHORIZE the Council President to appoint said City representatives as required.

As recommended by the Department of Planning, REQUEST that the following actions be taken by the SCAG Executive Committee:

1. COMMIT EXPLICITLY to a process whereby the population and housing projections contained in the Regional Growth Management Plan will be updated and revised on a scheduled basis with resources and training being made available to the City to participate in developing assumptions and testing, analysing and calibrating the data to improve its validity and reliability.
2. FORMALLY ESTABLISH A WORKING GROUP comprised of local government, university and research organization representatives to assist SCAG in the improvement and refinement of its population and housing estimate and projection techniques.
3. DIRECT SCAG staff the task of preparing a model or models to be used as a regional context element or framework for use by cities and counties to coordinate their local planning with the Growth Management and Air Quality Plans.
4. REQUEST SCAG DISSEMINATE an expanded public education program which will air toward increased public awareness and support the implementation of the major features of the Air Quality Plan with particular emphasis on the population and housing problem.

(Continued)

* ADOPTED AS AMENDED BY Ctl. Action of 2-1-1-18.
(See attached motions) *yes*

27-1

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TO THE COUNCIL OF THE
CITY OF LOS ANGELES

Your CLEAN AIR ISSUES AD HOC Committee

reports as follows:

(2)

5. ESTABLISH a management information program which goes beyond monitoring and provides information for all of the affected entities in the SCAG region with respect to progress being made on the thousands of actions which need to be taken throughout the region to implement the Growth Management Regional Mobility and Air Quality Management Plans.

SUMMARY

27-2

The City of Los Angeles commends the Southern California Association of Governments for the preparation of the Draft Air Quality Management Plan, for which proposed comments are submitted by this report for approval by Council, and for the preparation of the Draft Growth Management Plan and the Draft Regional Mobility Plan for the region. These documents have focused attention on regional issues in a very constructive and beneficial manner. These efforts should move the region toward significant actions to address several of the most crucial problems facing us now and in the future. Accordingly, the City is appreciative of the opportunity it has been afforded to participate in the formulation of these plans and to offer suggestions for their improvement.

Respectfully submitted,

CLEAN AIR ISSUES AD HOC COMMITTEE

William Brando
Robert Galanter

27-2

Your comment is appreciated and will be forwarded to the District Board and the SCAG Executive Committee.

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(21-11-112)

ADOPTED
* AS AMENDED
DEC 14 1988

LOS ANGELES CITY COUNCIL
(SEE ATTACHED MOTIONS)

M O T I O N


The Draft Air Quality Management Plan and the Draft Environmental Impact Report proposed by the South Coast Air Quality Management District and the Southern California Association of Governments glosses over the social and economic impact on women, minorities, and the economically disfranchised.

While described as a blue print for future action to improve our air quality, it seems clear that many of the current jobs available to women, minorities, and the economically disfranchised and potential future jobs will be lost or never created in the Los Angeles Air Basin.

It is unconscionable that the brunt of compliance will be the elimination of vitally needed jobs and other socially needed advancement opportunities. The implementation of the Plan must not be at the expense of the minority members of this region.

I THEREFORE MOVE that Item No. 10 on the December 14, 1988 Council agenda (C.F. 88-2183) BE AMENDED to require that the Southern California Association of Governments (SCAG) and the South Coast Air Quality Management District (SCAQMD) develop a formal evaluation process, using social, economic and environmental indicators, to determine if any of the enforcement measures proposed create a disproportionate hardship within the minority communities in the Basin as part of meeting the Clean Air goals.

PRESENTED BY


Gloria Molina
Councilwoman, 1st District

SECONDED BY



27-3

Please refer to the response for comment G-157 and Attachment 10.

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12 13 88

† ADOPTED

DEC 14 1988

LOS ANGELES CITY COUNCIL

MOTION

Local and regional governmental agencies concerned about air quality in the Los Angeles Basin are in the process of developing sweeping restrictions intended to improve regional air quality.

As currently proposed, the concepts contained in the developing planning documents will create tremendous economic and social impacts. Such impacts will affect our individual freedoms to live and work in this area, restrict business activity, limit our mobility and may even change our basic form of local government.

Such massive and sweeping proposals should be thoroughly and carefully evaluated to avoid Draconian consequences. Each and every element of the plans now being formulated must be subject to detailed economic and environmental impact reviews.

I THEREFORE MOVE that the City Council's Clean Air Issues Ad Hoc Committee Report, Item No. 10 (C.F. 88-2183) on today's Agenda be amended to request the Southern California Association of Governments (SCAG) and the South Coast Air Quality Management District (SCAQMD) to subject, on a case by case basis, each and every measure proposed to improve our air quality to a thorough economic, social, and environmental impact evaluation to ensure that the burden of implementing these measures is equitably shared and that improvements are obtained with the least possible economic and social disruption.

I FURTHER MOVE that the City Council's Clean Air Issues Ad Hoc Committee Report be amended to request the California Air Resources Board and the U.S. Environmental Protection Agency to conduct a serious review of proposals by the Western Oil and Gas Association and Southern California Edison which state that air quality can be more quickly improved with less economic and social impact than the plan proposed by the SCAQMD and, if these proposals have merit, the SCAQMD plan be modified by these oversight agencies to accelerate clean air in the Los Angeles region.

December 14, 1988

PRESENTED BY:

Richard Alatorre
Councilman, 14th District

SECONDED BY:

ADOPTED

DEC 14 1988

COUNCIL OF LOS ANGELES

27-4

Your comment is noted. The December, 1988 EIR, the Draft EIR on the Regional Mobility Plan (October, 1988), and the Draft EIR on the Growth Management Plan (October 1988) address and assess the environmental impacts of the AQMP control measures. Appendix F to the December, 1988 EIR has assessed the socioeconomic impacts of Tier I stationary control measures, the Regional Mobility Plan, and the Growth Management Plan. These additions provide information at the level appropriate for the AQMP EIR. Please refer to the response for comment G-3.

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OCT 27 1988

City of Moreno Valley

P.O. Box 1440, Moreno Valley, CA 92337

RESPONSES TO COMMENTS
CITY OF MORENO VALLEY (10/27/88)
COMMENT LETTER #28

October 27, 1988

South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731
Attn: Suzanne Reed

Subject: Comments concerning Draft Environmental Impact
Report (EIR) for 1988 Air Quality Management Plan
(AQMP)

Dear Ms. Reed:

The City of Moreno Valley Planning Department has reviewed the above-referenced EIR and the Draft Air Quality Management Plan for 1988. While recognizing the importance of the measures set forth within the Draft Plan and EIR, it is important to note the role individual cities must have in implementing the plan successfully.

In adopting the City's first General Plan (a copy is enclosed for your use) the Moreno Valley City Council established a number of specific goals, policies and implementation measures regarding the attainment of certain air quality standards for the area. These criteria are designed to promote more efficient land use patterns, traffic circulation and alternate modes of transportation without jeopardizing the need for balanced housing and economic growth.

In order to assure that the Final AQMP reflects the needs of local jurisdictions, it is requested that the Final EIR and AQMP provide detailed assessment with respect to the following issues:

28-1

How will the AQMP be coordinated with the Southern California Association of Government's (SCAG) Regional Housing Needs Assessment and Growth Management Plan which are being prepared?

28-2

What effect will implementation of the AQMP have on current state housing requirements for local jurisdictions?

28-1

The 1988 revision to the AQMP was developed pursuant to the direction of the District Governing Board and SCAG's Executive Committee. The AQMP is intended to serve as a regional guidance document that would enable the Basin to attain federal standards for criteria pollutants by the year 2007.

SCAG's Regional Housing Needs Assessment and Growth Management Plan projects certain population, jobs/housing balance, and housing figures over the time frame of the AQMP.

28-2

Please refer to the response for comment 9-13.

000011

28-3 [The City of Moreno Valley has established a jobs-housing balance goal of .52 jobs per capita. How will implementation of programs to achieve region-wide jobs-housing balance affect this goal and other similar goals of local jurisdictions, which seek to achieve mandated air quality standards at the local level?

28-4 [The City of Moreno Valley is actively pursuing industrial growth within its boundaries. How will the AQMP balance the local economic necessity of providing local jobs with regional air quality?

Please forward copies of the Final AQMP and Environmental Impact Report when they become available. Thank you for the opportunity to review and comment on the documents. If you have any questions, please contact the Planning Department at (714) 924-6991.

Sincerely,

Greg G. Gage

Greg G. Gage
Environmental Coordinator

Ronald L. Smith

Ronald L. Smith
Planning Director

/dpb

Enclosure: Moreno Valley General Plan

28-3 Please refer to the response for comment 9-13.

28-4 Appendix F to the December, 1988 EIR, presents socioeconomic impacts. The extent of the AQMP's implementation on new industry will be based on type of industry and on the evaluation of pollution controls required during the evaluation and processing of District Rules and/or emission control measures.

000012



OCT 27 1988

City of Moreno Valley

P.O. Box 1440, Moreno Valley, CA 92337

RESPONSES TO COMMENTS
CITY OF MORENO VALLEY (10/27/88)
COMMENT LETTER #28

October 27, 1988

South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731
Attn: Suzanne Reed

Subject: Comments concerning Draft Environmental Impact
Report (EIR) for 1988 Air Quality Management Plan
(AQMP)

Dear Ms. Reed:

The City of Moreno Valley Planning Department has reviewed the above-referenced EIR and the Draft Air Quality Management Plan for 1988. While recognizing the importance of the measures set forth within the Draft Plan and EIR, it is important to note the role individual cities must have in implementing the plan successfully.

In adopting the City's first General Plan (a copy is enclosed for your use) the Moreno Valley City Council established a number of specific goals, policies and implementation measures regarding the attainment of certain air quality standards for the area. These criteria are designed to promote more efficient land use patterns, traffic circulation and alternate modes of transportation without jeopardizing the need for balanced housing and economic growth.

In order to assure that the Final AQMP reflects the needs of local jurisdictions, it is requested that the Final EIR and AQMP provide detailed assessment with respect to the following issues:

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28-2

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28-2

SCAG's Regional Housing Needs Assessment and Growth Management Plan projects certain population, jobs/housing balance, and housing figures over the time frame of the AQMP.

Please refer to the response for comment 9-13.

000613

28-3 [The City of Moreno Valley has established a jobs-housing balance goal of .52 jobs per capita. How will implementation of programs to achieve region-wide jobs-housing balance affect this goal and other similar goals of local jurisdictions, which seek to achieve mandated air quality standards at the local level?

28-4 [The City of Moreno Valley is actively pursuing industrial growth within its boundaries. How will the AQMP balance the local economic necessity of providing local jobs with regional air quality?

Please forward copies of the Final AQMP and Environmental Impact Report when they become available. Thank you for the opportunity to review and comment on the documents. If you have any questions, please contact the Planning Department at (714) 924-6991.

Sincerely,



Greg G. Gage
Environmental Coordinator



Ronald L. Smith
Planning Director

/dpb

Enclosure: Moreno Valley General Plan

28-3 Please refer to the response for comment 9-13.

28-4 Appendix F to the December, 1988 EIR, presents socioeconomic impacts. The extent of the AQMP's implementation on new industry will be based on type of industry and on the evaluation of pollution controls required during the evaluation and processing of District Rules and/or emission control measures.

00014



CITY OF NEWPORT BEACH

RESPONSES TO COMMENTS CITY OF NEWPORT BEACH COMMENT LETTER #29

OFFICE OF THE CITY MANAGER

October 18, 1988

Suzanne Reed
Special Projects Coordinator
SCAQMD
9150 Flair Drive
El Monte, CA 91731

Dear Ms. Reed:

The City of Newport Beach appreciates having the opportunity to review and comment on the Draft Air Quality Management Plan (DAQMP) and Environmental Impact Report. The City is also aware of the need for regionally coordinated planning to solve problems that cross local boundaries and supports that planning effort. While the City strongly supports an aggressive Air Quality Management Plan, the City cannot support the Transportation, Land Use, and Energy Conservation measures as currently drafted. Given the regular City staff workload and the complexity and number of documents currently being released by SCAG, as part of the Regional Strategic Plan (RSP), the review and comment schedule for the DAQMP and EIR did not allow the City sufficient time to do an adequate review of the plan and EIR. This is unfortunate since it limits the City's ability to contribute positively towards a regional solution to the South Coast Air Basin's air quality problems. Due to the constraint of time, the City's comment letter identifies perceived problems in a general manner and offers only a few examples of each problem. SCAG staff should contact Craig Bluell in the City's Planning Department, if clarification or greater detail is needed. Since the plan must be reviewed and revised as necessary every two years, as provided for under the Lewis Act, it is hoped that this plan will be a starting point and all local jurisdictions will be individually contacted for their input. City staff has contacted SCAG by telephone and discussed the plan with SCAG staff. The comments in this letter are being made with reliance on that information.

In general, the tone of the plan, particularly the implementation actions to be taken by local government, is mandating. SCAG staff said this was not the intent of the plan. However, statements such as "Local government must adopt ordinances by 1990 which:", "Local government will adopt:", "Local governments must ensure ...", "Local government must commit:", "Local governments adopt ...", "The measures to be implemented by local jurisdictions and/or subregional entities are as follow:", "Local government must provide," and "Local governments amend ..." can only be understood as mandating some actions. Further, these mandates are followed by a specific action or a definitive list of actions which must be taken by a specific date. SCAG staff stated that it was not the intent of the plan to require

29-1

Your comment is noted. CEQA Section 15087 (c) permits public review periods ranging from 30 to 90 days with a standard 45-day public review period for most documents. To date the AQMP EIR has been available for comments a total of 104 days. The dates are as follows:

- a) September 12, 1988 to October 27, 1988 -- Initial review of the Draft AQMP EIR
- b) December 2, 1988 to December 16, 1988 -- 14-day review period for the December EIR
- c) December 19, 1988 to February 1, 1989 -- 45-day review period for the December EIR

The Public review and comment period for the AQMP EIR exceeds that required and allowed by CEQA and CEQA Guidelines.

29-2

Please refer to the response for comment 2-10.

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29-2
cont

the implementation of specific actions or an entire list of specific actions. SCAG staff also said that the implementation actions were not limited to those identified and that cities could create their own programs. After speaking to SCAG staff, it is the City's understanding that the identified implementation actions were intended as a "resource" from which cities could select appropriate actions depending on the character of the community. If this is the case, it is necessary for SCAG to rewrite the control measure implementation actions to make this clear, include a discussion explaining that the implementation actions are not an all inclusive list and that choices can be made. It should also be made clear that these choices should be made based on the needs and character of each community and that it is not the intent of the plan to preempt local responsibility and authority. Since some local governments may wish to make greater efforts in some areas and less in others, an explanation of the amounts of pollution that can be reduced by each implementation action would be useful. This would assist local government when it evaluates the various options for implementation.

Many implementation actions contain terms which are not defined, therefore it is not possible to determine whether an implementation action applies to a specific area. Examples of such terms are "major activity centers," "congested," and "commercial activity center." If it is the intent of the plan to allow local government the opportunity to define these terms, that should be made clear in the plan. However, if this is not to be left to local government, than SCAG must define these and other terms.

29-3

In some cases, the implementation actions are not clear as to what is being regulated. One example of this is an implementation action under telecommunications which reads as follows:

"Local governments will adopt trip reduction ordinances by January 1, 1992, requiring employees to reduce 20% of work trips using telecommunications strategies."

It is not clear whether private sector or government employees are to be regulated by the ordinance.

29-4

Other implementation actions do not seem to be well thought out because they penalize individuals who are behaving in a desirable way, conflict with other implementation actions, or fail to take into consideration the success of other implementation measures. A few examples of such implementation actions are as follows:

"Impose a surcharge on parking spaces for single occupant vehicles and/or provide a discount for multi-occupant vehicles in all parking facilities."

This type of action penalizes people who choose to pay a larger portion of their income to purchase housing near their employment to reduce their

29-3

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

29-4

Your comment is valid in noting that some control measures run at cross-purposes to one another and may make it more difficult to implement other measures. Such difficulties are the product of the complexity of reducing emissions to sufficient levels to meet air quality standards in the Basin; can be overcome with sufficient funding and resources. Development of detailed resources required for individual control measures to eliminate such difficulties as conflicts between the control measures will be undertaken during rule development processes.

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29-4
cont

commute distance. This implementation action is also in conflict with the implementation actions that require alternative work schedules or flextime. Employees who are on alternative work schedules or flextime will have reduced ride sharing opportunities and, in most cases, probably have none. This also creates disincentives for the commuter that does not go directly to work. Some employees may leave early and/or return late, using the time to attend school, use fitness centers, eat meals, or take advantage of entertainment, recreation, or other resources (libraries, museums) not available at home.

29-5

The plan states that "Local government must commit: apply revenues generated by increased parking fees to transit fares as a subsidy." Other implementation actions require the elimination of parking and the increase of parking enforcement. The reduction of parking combined with increased enforcement costs, which local governments would pay for from parking fees and fines, would probably not result in increased net revenue.

29-6

It is not clear that the elimination of free parking for non-residential development by 1994 is limited to congested areas. Further, it can not be determined whether the elimination of free parking is to be limited to on-street parking or to include on-site parking. The elimination of parking and the control of parking by use of permits and short time limits in Coastal cities may be in direct opposition to State Coastal Act policies. The limiting of parking spaces in specific zones or on a per square foot basis may also be in direct opposition to State Coastal Act policies. Moreover, if the implementation actions concerning "clean fuels" and electrical vehicles are successful or if a mass transit system does not develop, the demand for parking will persist. Therefore, the permanent loss of parking may not be desirable. It may be more desirable to maintain parking requirements at current standards and require that it be landscaped. This would permit the development of additional parking at a later date, if the necessity arises.

Control measures and implementation actions that result in the direct reduction of air pollution are reliable and predictable. An example of such a measure would be tailpipe emission standards. The jobs/housing balance measures are not that type of measure. Jobs/housing balance relies on the "taste preferences" of a second party to be successful. The presence of housing does not ensure that people will live near their place of employment. To base significant reductions of air pollutants on jobs/housing balance is, at best, risky.

Further, local governments may be dependent on current and projected revenues generated by commercial uses to meet fiscal obligations. A shift in commercial development may result in significant reductions in future revenue for some communities. Coastal cities are also obliged to provide visitor servicing facilities which increase municipal costs and add to a city's total commercial square footage. Much of that square footage is devoted to satisfying subregional recreational demands. To expect cities to

29-5

The reduction of on-street parking during peak periods, one of the parking management control measures (page V-9 of the Draft Regional Mobility Plan) would not impact the revenue raising approach envisioned in the financial element of the Regional Mobility Plan. Local government enforcement (through fines) of the on-street parking restrictions or residential permit program fees could be scaled to cover the cost to the local jurisdiction of enforcing the programs.

29-6

Increased parking fees are anticipated in employment centers to offset the cost of demand management ridesharing programs as well as to raise revenues for transit capital and operating and maintenance costs. Some reduction in anticipated revenues could be expected from graduated parking fees based on auto occupancy.

Elimination of free parking and peak period on-street parking, or proposals of other parking measures are designated to promote mode shift from single occupant automobile access to ridesharing and public transit. In order to avoid negative local area impacts, however, the mix of parking management strategies which a local government would adopt would be based on local conditions. AQMP, Appendix IV-G, Measure 2.b.--Parking Management, is being revised based on comments to call on local governments to conduct a local parking management assessment as part of the air quality element development actions to be taken by each community. The specific set of parking management/supply options would be identified as a part of this effort through a local hearing and ordinance adoption process.

00017

SCAQMD
October 18, 1988
Page 4.

29-7

increase residential densities in developed residential areas to offset existing commercial square footage will only increase the burden on existing infrastructure and not ensure that people will live near their jobs. In order to determine a realistic air pollution benefit for the jobs/housing balance, it is necessary to make clear the extent to which cities will be required to add units. At this point in time, this has not been done in the Growth Management Plan or the Regional Housing Needs Assessment. The AQMP EIR should assess the fiscal and infrastructure impacts on communities from the jobs/housing balance. In order to make these assessments, realistic estimates of relocation and residential density increases must be used.

Should you have any questions, please do not hesitate to contact Craig Blueell of the Planning Department staff, at (714) 644-3225.

Sincerely,



ROBERT L. WYNN
City Manager

RLW:CTB:jm
C:\CCSR\SCAQMD.LET

29-7

Even if job/housing balance does not guarantee every citizen a shorter commute, the transportation modeling of GMA4-Mod J/H shows that, regionwide, the projected vehicle miles traveled under baseline are reduced by about 30 million miles out of 376 million or 8 percent. The regional impact is sizable in terms of reducing congestion and reducing emissions of air pollutants.

With the assistance of local jurisdictions and subregional entities, SCAG shall develop for each subregion, and for each local jurisdiction, job/housing balance targets in 5-year increments. The Regional Housing Needs Assessment (RHNA) also presents housing needs by jurisdiction.

000018



OCT 24 1988

RESPONSE TO COMMENTS
CITY OF ONTARIO (10/17/88)
COMMENT LETTER #30

October 17, 1988

Ms. Suzanne Reed
Special Projects Coordinator
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

Dear Ms. Reed:

I am writing in response to the notice of completion for the EIR for the proposed 1988 revision to the AQMP.

30-1

I believe that the issue which creates the greatest concern in this jurisdiction, and, I suspect others, is that of enforcement. In reading these voluminous documents, there is no serious discussion given to the actions which might be employed to require compliance with specific policies of the plan. As I am sure you are aware, some of the proposals, especially in the supporting appendices to this document, are controversial and issues of implementation are central to the problem, not peripheral. In short, we do not feel that these documents give us a clear idea as to what will be required of this City by the plan and what quid pro quo will be provided by other jurisdictions. We have a difficult time supporting this open-ended approach to the problem.

30-2

Specifically, there are certain actions which this jurisdiction is unlikely to take even though we share the goal of clean air with the entire basin. For example, we have heard representatives from the State and SCAG propose, apparently seriously, such draconian measures as the issuance of occupancy permits before site plan review in order to stimulate housing formation in desired areas. As this pertains to the EIR, we ask, "How could one reasonably assess the likely impacts associated with this sort of abandonment of the standards which have heretofore been part of the normal review process?" We suggest that no such evaluation is possible. We also have serious questions about the advisability of pursuing further the jobs-housing balance strategy outlined in these several documents. The presumed goal of this strategy is to minimize average daily commuting distances which is, of course, desirable. Nevertheless, it would appear that the real problem is not housing availability. Rather the problem is one of cost. It is clear that, on a square footage basis, there is a general and rapid increase in the cost of housing as one proceeds westward from the Inland Empire into Los Angeles and Orange Counties. That situation is likely to obtain even if more housing is built in the western areas and more jobs are available in the east. As such, reduced commuting is not likely even if target goals are met. It is instructive that Orange County is presently in balance in the areas of jobs and

30-3

30-1

The detailed impacts of individual control measures will be addressed during the rulemaking processes. Implementation of the tactics identified in the AQMP will only occur after a regulation is adopted pursuant to rulemaking authority granted the District or ordinances enacted by local governments. The EIR of the AQMP is intended to serve as a base document within the tiered system.

30-2

As part of the implementation process it is proposed that cities decide on whether or not to grant housing and commercial/industrial permits. Implementation of the Growth Management measures to balance job and housing in the Basin would be undertaken by local jurisdictions. A city which is impacted either on the housing or on the job side will not be compelled to grow beyond its capacity. Within a subregion, local jurisdictions can trade targets and negotiate measures. Cities are provided with a choice of measures and they can develop their own measures that are applicable to their own situation.

30-3

Please refer to the response to comment 29-7.

000019

30-3
cont

housing. Nevertheless, massive numbers of workers are exported each day to Los Angeles County and similar numbers arrive from the Inland Empire. This situation is likely to continue without large scale market intervention, a course of action which is not likely to be given serious consideration. Thus, there is no reason to assume that improved jobs-housing balance will reduce average commutes if the issue of cost continues to go unaddressed.

30-4

Moreover, the basic structure of the EIR is drawn into question because of the nature of the proposed AQMP, itself. Specifically, the AQMP proposes three tiers of policy with considerably different provisions. The third of these goes so far as to rely on technologies which may or may not be ready for implementation by 2010 A.D. Thus, the project, as defined by CEQA, is, and must be, illdefined. As such, the EIR cannot hope to adequately address the possible impacts associated with the plan. For example, the impacts associated with full electrification of transportation would be quite different depending on the means of generation used and the location of the generating facilities. Therefore, we suggest that additional environmental review will be necessary before any Tier III strategies are implemented.

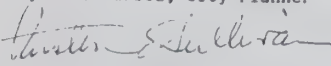
30-5

Finally, the interrelatedness of these many and voluminous documents is unclear, at best. Moreover, not all documents have been distributed. We did not even know that there was a September, 1988 draft of the Transportation Land Use and Energy Conservation Measures document until Lloyd Zola of Planning Network chanced to inform us of its existence. The convoluted interrelationships of these various documents make a clear response to any of them more difficult.

If you have any questions, please call me at (714) 391-2506.

Yours truly,

ONTARIO PLANNING DEPARTMENT
Joyce I. Babicz, City Planner


Austin E. Sullivan
Senior Planner

AES:rb

30-4

Tier III programs are designed to bring about major technological breakthroughs to further reduce emissions. Unlike the first two tiers, which focus on implementation of known control measures, Tier III promotes research, development, and widespread commercial application of technologies that may not exist yet, but may be reasonably expected given the rapid technological advances experienced over the past 20 years. Detailed impacts of individual control measures in each all tiers will be developed at the time of rulemaking.

30-5

Your comment is noted. All AQMP documents have available for the Public review since December 19, 1988.

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THE CITY OF
POMONA

Community Development Department



RESPONSES TO COMMENTS
CITY OF POMONA (10/27/88)
COMMENT LETTER #31

October 27, 1988

South Coast Air Quality
Management District
9150 Flair Drive
El Monte, California 91731
ATT: Mr. Brian Farris

RE: Air Quality Management Plan 1988: Draft
Environmental Impact Report

Dear Mr. Farris:

The City of Pomona has received Notice of Completion Re: Air Quality Management Plan 1988 (AQMP) and the accompanying Draft Environmental Impact Report. We have reviewed these documents for their adequacy and scope as pertinent to our agency's concerns and statutory responsibilities.

In reviewing both the AQMP and the Draft EIR, we have the following comments:

- 31-1 0 Many of the control measures listed in the AQMP are vague and are not specifically defined. Because of this, our Agency cannot fully assess how many of these measures will impact our City.
- 31-2 0 The Plan does not identify any cost associated with implementing the measures listed. We are particularly concerned with any cost impacts associated with smaller firms and businesses.
- 31-3 0 It is recommended that more emphasis be placed on traditional "reverse", bus and carpool lanes than what is currently being promoted in the Plan.

We appreciate the opportunity that you have afforded us to review and comment on the Plan. In the future, we would like to participate in any additional review opportunities regarding programs or plans associated with the AQMP. Should you have any questions regarding this matter, please feel free to contact me.

Sincerely,

Ronald H. Smothers
Development Director

31-1

Please refer to the response for comment 30-1.

31-2

To the extent possible, the cost impacts of implementing the AQMP control measures for known technological applications have been identified in Appendix-IV-A. Since Tier II and III measures are not to be adopted until the mid to late 1990s, future AQMP revisions will further quantify these costs. Development of detailed cost data for individual control measures will be undertaken during the rule-making process for each control measure.

Although implementation of control measures may initially present financial difficulties to some affected facilities, in the long run these facilities may make adjustments to increase their competitiveness. Such firms have made similar adjustments in light of foreign competition, economic downturns, and technological advancement.

31-3

The RMP and AQMP do not specify design or operation of the designated HOV lanes. Such determinations, as in the case of possible reversible lanes, must be made during the project development stage. However, due to the fairly balanced peak period directional demand on most freeways, it appears that there will be relatively few locations where reversible lanes could work.

MAYOR
Dan Young
VICE MAYOR -
Patricia A. McGuigan
COUNCILMEMBERS
John Acosta
Daniel E. Griser
Wilson B. Hart
Ron May
Miguel A. Pulido



October 27, 1988

OCT 28 1988

CITY OF SANTA ANA

ALL-AMERICA CITY 1982-83

CITY MANAGER
David H. Egan
CITY ATTORNEY
Edward J. Cooper
CLERK OF THE COUNCIL
Janice C. Guy

32-1

RESPONSES TO COMMENTS CITY OF SANTA ANA (10/27/88) COMMENT LETTER #32

Your comment is noted. CEQA Section 15087 (c) permits public review periods ranging from 30 to 90 days with a standard 45-day public review period for most documents. To date the AQMP EIR has been available for comment a total of 104 days. The dates are as follows:

- a. September 12, 1988 to October 27, 1988 -- Initial 45-day review of the Draft AQMP EIR
- b. December 2, 1988 to December 16, 1988 -- 14-day review period for the December EIR
- c. December 19, 1988 to February 1, 1989 -- 45-day review for the December EIR

The public review and comment period for the AQMP EIR exceeds that required and allowed by CEQA and CEQA Guidelines.

Ms. Suzanne Reed
Special Projects Coordinator
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

SUBJECT: COMMENTS ON THE 1988 DRAFT AIR QUALITY MANAGEMENT PLAN.

Dear Ms. Reed:

The City of Santa Ana supports efforts to achieve cleaner air in the South Coast Air Basin; however, review of the proposed Draft Air Quality Management Plan (AQMP) and Draft Environmental Impact Report (DEIR) indicates areas that Santa Ana would support and other areas where we have serious concern. The proposed AQMP and DEIR consist of several thousand pages of highly technical information. Implementation and ramifications of this proposal would affect millions of people in one of the most vital economic centers of the world. Therefore, we must request that the comment period be extended to allow sufficient opportunity for public review and response prior to any consideration of approval of this document.

32-1

Santa Ana has been a leader in Orange County efforts in many of the areas mentioned in the proposed plan. Conceptually, we support the following proposals of the AQMP:

- That air quality elements be added to city general plans.
- That city general plan, land use, and circulation elements be coordinated with regional plans.
- That automobile emission levels be reduced.
- That alternative work modes be developed.
- That toll financing be used as a funding mechanism for new transportation projects.
- That stationary source emissions be reduced.

October 27, 1988

32-2

The following areas require additional effort prior to consideration for adoption:

32-2

- The disruptive impacts of implementing the proposed AQMP for the region have not been cumulatively addressed.

- The goal of the proposed AQMP is clear, but the proposed standards for implementation and attainment are confusing.

32-3

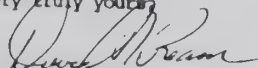
- The proposed AQMP fails to balance the costs and benefits of implementation.

- It is unlikely that the Draft AQMP, as proposed, can be successfully implemented considering necessary legal authorities, lack of public consensus, limited review time, untested technology, and funding limitations.

I am enclosing the more detailed comments prepared by my staff following their review of the documents. Please accept these comments as part of the City's official response.

We appreciate your efforts toward improving air quality in the region. Thank you for the opportunity to review the Draft AQMP. If you have questions concerning Santa Ana's comments, please contact Jill Wallace, of my office at (714) 647-6900. We are looking forward to your response to these comments.

Very truly yours,



David N. Ream
City Manager

Enclosure

cc: Mayor and City Council
Daniel W. McGovern, Regional Administrator, J.S.E.P.A.
Joanna Sharpless, Chairperson, California Air Resources Board
SCAG
Congressman Dornan
Congressman Badham
Senator Royce
Senator Seymour
Assemblyman Frizelle
Assemblyman Lewis
O.C. Division, League of California Cities
O. C. City Managers

The AQMP offers proposals for the attainment of federal air quality standards. These proposals are not cast in stone, but are part of a dynamic process that will be revised periodically to accommodate the changing circumstances of the region. The compliance dates for the proposed control measures should allow for gradual implementation of any potential lifestyle changes, thereby avoiding significant disruptions.

By placing restrictions on polluting activities and though the use of monetary incentives, the measures contained in the AQMP are designed to bring about the behavioral changes necessary to reduce emissions sufficiently to meet the Federal Clean Air Standards. Since mobile sources generate the most air pollution (72 percent of NO_x, 96 percent of CO, and 52 percent of ROG), modifications to transportation modes and patterns including telecommuting and alternative work locations will be necessary to achieve this goal. Modifications in the economy include a move toward a more service-based economy.

A bold, collective effort will be required to implement all the proposed control measures. Yet, it is the purpose of the Plan to set forth a vision of how this can realistically be accomplished and then make periodic adjustments to accommodate what can and can not be accomplished. The AQMP creates a positive structure for this to occur and the impetus to make it happen. For additional information concerning the potential disruptions associated with implementation of the AQMP, please refer to the responses for comment 2-10.

32-3

Benefits resulting from the implementation of the AQMP and its subsequent air quality improvements include reduced materials and crop damage, improved human health, and increased visibility. The damages which result from noncompliance with the Federal air quality standards are estimated to cost the Basin between \$3.5 billion and \$7.4 billion annually. Benefits associated with lower pollution levels were computed by comparing the 1987 air quality data in the Basin with federal standards for ozone and particulates.

MEMORANDUM

David N. Ream
To: City Manager
David H. Grosse, Exec. Director
From: Public Works Agency



Date: October 27, 1988

Subject: COMMENTS ON THE 1988 DRAFT AIR QUALITY MANAGEMENT PLAN

The 1988 Air Quality Management Plan (AQMP) and Draft Environmental Impact Report (DEIR) are jointly prepared by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG).

SCAQMD and SCAG have hosted public hearings on the AQMP since September 1988. Written comments on the plan must be submitted by October 27, 1988, in order to be included as a part of the public record. The SCAQMD is not obligated to respond to our comments if they are received after that date.

On December 15, 1988, the SCAQMD is scheduled to take action on the plan. Following is the City staff analysis of the AQMP and DEIR.

STAFF COMMENTS

Staff supports the effort to achieve cleaner air in the South Coast Air Basin. However, there are serious concerns about the proposed AQMP and DEIR.

We would like to point out aspects of the plan that the City of Santa Ana supports:

- ° That air quality elements be added to the city general plans.
- ° That city general plan, land use, and circulation elements be coordinated with regional plans.
- ° That automobile emission levels be reduced.
- ° That alternate work modes be developed.
- ° That toll financing be used as a funding mechanism for new projects.
- ° That stationary source emissions be reduced.

32-4

The AQMP, DEIR and appendices consist of several thousand pages of highly technical information. Because of the extensive documentation, staff were not able to provide a detailed analysis in so short a review time. We respectfully suggest that the public comment period be extended. This is particularly important in light of the fact that not all pertinent AQMP appendices and related documents are yet available for public review. We also suggest that the December 15, 1988, date set for the District vote of approval be delayed until all comments within the region have been received and addressed.

Equations used in calculating these air quality benefits are from pages 5-69, 5-71, 6-14, 8-29, and 7-50 of the Air Resources Board report entitled "The Benefits of Air Pollution Control in California." Other data sources include the Agricultural Crop Report, The District Air Quality Data Base, the California Statistical Abstract, and the Economic Report of the President.

32-4

Please refer to the response for comment 32-1 regarding the review time period. Also, the adoption of the AQMP has been delayed for 90 days (from December, 1988 to March, 1989) allowing an additional time for review and consideration for all interested parties.

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Based on the review that we have completed, we have characterized our concerns into the following four areas.

CONCERNS

1. IMPLEMENTATION OF THE AQMP REPRESENTS A DRAMATIC AND DISRUPTIVE DEPARTURE FOR THE REGION

The AQMP is a document that, if approved and implemented, will greatly impact the transportation habits, growth patterns, and economic vitality of one of the most prosperous regions in the United States. As such, it should be undertaken with the utmost care and seriousness. In general, we wonder why the District chose such a "revolutionary" approach, rather than a more "evolutionary" approach. This question underlies much of our concern about the plan.

- A. What impact will these growth modifications pose to the local, basin, state, and national economy should they proceed or not proceed as planned? We believe this question is inadequately addressed in the DEIR and support appendices.
- B. How can implementation strategies be proposed without the completion of preliminary analysis or the identification of national and regionally significant impacts to existing energy sources? (For example: Conversion to an all electric basin is proposed without identification of additional power sources.)
- C. Is the implementation of untested technology putting the public at risk from fuel sources that are more toxic than the fossil fuels now in use? (Example: Implementation of methanol usage for automobiles should require testing prior to its mass-scale usage.)
- D. The AQMP implies that over a five-year period the region can dictate the type and location of housing and commercial development without repercussions. Southern California's business and housing communities do not operate within a vacuum. Harsh, short-term disincentives related to commercial development, transportation and housing, may force investors and residents outside of the region entirely. What economic protections for the region are addressed in the AQMP? What evidence is there that this degree of centralized planning is politically acceptable and will not undermine the plan in its entirety?

2. THE GOAL OF THE AQMP IS CLEAR, BUT ITS PROPOSED STANDARDS FOR ATTAINMENT ARE CONFUSING

- A. The AQMP does not distinguish between air pollution emission reductions required to attain federal standards, as opposed to state air quality standards. Clarification of the two agency attainment goals should be more clearly stated in the document. Is it the AQMP's goal to attain federal or state air quality standards? What is the preferred priority for compliance?

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- B. The City's review of available documentation has found no solid line of reasoning between these regional plans and air quality goals. The growth management orientation appears to optimize transportation concerns, not necessarily air quality.
- C. The AQMP uses SCAG population estimates. These estimates are not consistent with the Department of Finance figures that are used as the basis for all statewide studies. Does the inconsistency in the methodology of the various regional plans limit the AQMP's reliability and effectiveness?

3. THE AQMP FAILS TO BALANCE COSTS AND BENEFITS

- A. The plan assumes that the benefit of cleaner air should be made at any cost. The cost benefit of the AQMP's implementation is unreasonable in its assumption that a region can afford to sacrifice any amount of economic opportunities for the sole benefit of cleaner air. The plan does not even postulate the question of marginal costs for marginal benefits. What specific amount of air quality improvement is expected to result from each strategy in the plan, and at what cost?
- B. In recommending strategies to achieve cleaner air, the draft AQMP does not address the cumulative impacts of control measures on a single source. The final selection of control measures should acknowledge the synergy among measures not only in terms of air quality benefits, but also the cumulative costs that multiple controls will impose.
- C. The cost per day for the reduction in emissions is estimated based on a daily cost per individual resident within the basin. However, this approach is inadequate when applied to individual cities and individual industries. It fails to take into account differential costs and impacts resulting from a variety of job/housing patterns and economic realities. Is the goal of attaining clean air to be achieved at the expense of small service industries, small cities, or vulnerable local economies?
- D. The AQMP is the umbrella document whose success will be determined by its ability to incorporate the goals of the RMP, GMP, and the RHNA. Each of the various regional plans is directed at the mobility, growth, and housing needs here in the region. However, the AQMP fails to quantify how the implementation of each of the proposed regional plans will impact air quality. What methodology is being used to correlate the cumulative impacts of these plans in relation to improved air quality and to assure that they are mutually compatible?

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4. IT IS UNLIKELY THAT THE AQMP CAN BE SUCCESSFULLY IMPLEMENTED AS PROPOSED

A. No Legal Authority

SCAG and the SCAQMD do not have legal authority to impose or enforce this plan on local governments. They serve as an advisory body to insure a cooperative planning process for this region. The SCAQMD has authority to regulate indirect sources of air pollution. However, in 1987, state legislation explicitly precluded the SCAQMD from using its authority to infringe on local land use powers. What institutional structure is being proposed to implement the measures included in the plan?

The AQMP provides no organizational structure to insure a consistency of compliance among local jurisdictions. Though a penalty for compliance is threatened, each city is left to implement the proposed control measures on its own. Will the EPA's authority to induce negative sanctions against cities which fail to comply with AQMP standards use growth, mobility, or air quality as the yardstick to determine compliance? How does the AQMP propose to ensure consistency of compliance among local jurisdictions? Why are there no models of proposed ordinances and air quality elements included in the documents' appendices? Why are there not more positive incentives to encourage compliance?

The AQMP does not discuss the legal authority of one state to plan its regional development on the availability and use of energy and natural resources of a bordering state.

The City does not support the adoption of AQMP goals that are inconsistent with existing state and federal legislation and does not believe that the District has clear legal authority to do so.

B. No Consensus

The AQMP fails to recognize the human element in its implementation plan. Legislation that attempts to impact the relationships between jobs, housing, and transportation services must be thorough in its integration of the affected interest groups. A "top down" approach to such issues may promote resistance, rather than compliance. The public must be consulted in a cooperative fashion to facilitate their willingness to accept the changes, trade-offs, and sacrifices suggested by this plan. The short time allowed for public comment on the plan is one example of early failure to adequately involve the public. What efforts will the AQMP make to facilitate more local governments' and regional bodies' participation in the AQMP process?

C. No Time

Insufficient time was allowed for adequate review of the document. City staff was required to submit comments on the AQMP prior to the release of supporting documentation. Schedules for the timely release and distribution of the AQMP, DEIR, and appendices were not met.

In addition, the speed with which the plan is proposed to come into effect is not realistic. According to the AQMP, in the 1990s, local government would need to adopt ordinances for Regulation XV, implement the job/housing balance, reduce solid waste, reduce work trips by 10 percent, establish parking permit systems, remove on-street parking, implement trucking controls, reduce energy demands, ban new drive-thru facilities, and amend city general plans to include an Air Quality Element. Is it a reasonable expectation that cities will be able to effect these changes within the time frame required by the AQMP?

D. No Technology

The AQMP proposes to require the massive use of new energy sources and new technology. Inadequate documentation is provided that these new technologies and energy sources can be readied in a timely enough fashion for the AQMP as proposed. It appears that the supply of new or alternate energy sources is dependent on the development and implementation of technologies not yet available.

Furthermore, the levels of reduction brought about by full implementation of the AQMP will not result in the attainment and maintenance of National Ambient Air Quality Standards within the South Coast Air Basin.

Current technology does not exist to implement control measures suggested in Tier II and Tier III. How can the AQMP legislate the use of undeveloped technology?

E. No Funds

The tax revolt of the late 1970s restricted public agencies' ability to pay for infrastructure improvements. The state and federal governments' disengagement from the provision of grant/loan monies for capital projects makes this plan impossible to implement by local governments. Any level of government that mandates program changes must be willing to make more funds available. Local agencies do not have funds available in their budgets to absorb the potential costs for implementation strategies proposed.

The implementation of Tier I, II, and III control measures should be based on both technological readiness and financial feasibility. Local government's commitment to implement these measures must be based on the availability of sufficient funds. What legislative commitments will the SCAQMD seek from state and federal agencies to ensure the availability of additional funds for the purpose of attaining air quality improvements?

Local government favors land uses that attract tax revenues, such as shopping centers and office complexes, over less lucrative housing. The present tax structure is not conducive to air quality goals and will not generate sufficient funds for necessary infrastructure improvements. Is the goal of achieving a jobs/housing balance financially feasible for cities which need a secure tax base to generate their operating budgets?

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October 27, 1988

We are all aware of the current air quality conditions within the region. It is our goal and our obligation to improve the quality of life for residents. For this reason, we are sympathetic to the objectives shared by both the SCAQMD and SCAG. However, we believe that progress depends on clear goals, cooperative planning, and realistic strategies. Although we find the proposed plan an inadequate framework, we do believe that we must all work together to accomplish this monumental task. Staff continues to be available to work toward a cleaner and healthier Southern California.

If you have any questions, please give me a call.



David H. Grosse

DHG/MCB/04AmIm

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CITY OF GLENDORA

CITY HALL 116 EAST FOOTHILL BLVD 18181 914-8200
GLENDORA, CALIFORNIA 91740

RESPONSES TO COMMENTS CITY OF GLENDORA (12/7/88) COMMENT LETTER #33

December 7, 1988

Mr. A. Norton Younglove
SCAQMD Board Chairman
9150 Flair Drive
El Monte, CA 91731

Dear Mr. Younglove:

At the moment, I am in the process of reviewing the recently released "Draft 1988 Air Quality Management Plan" from the South Coast Air Quality Management District. It was only December 5, 1988, that the Environmental Impact Report arrived along with Appendices. I have not yet picked them up for review and scrutiny. It would seem that in order for the City of Glendora to render a competent opinion, we should not only have all the relevant material, but also adequate time to read it. Bearing in mind that these are substantial documents with language that may not be completely familiar to our staff people, or to many of us for that matter, and the fact that cities do have other business to conduct, it would seem the December 16, 1988, meeting at the Board of Supervisors Room, Los Angeles, is premature.

Initially, with only preliminary knowledge of what is occurring at this point, there are many questions and concerns that have come to mind. I am sure the questions will be answered eventually. The following is a list of concerns that the Board, in my opinion, needs to deal with immediately, either at the hearing on December 16, or prior to that date.

1. Cities and their representatives should have received the Appendices to the Draft Plan along with the Plan for review and comment. Without those appendices, that Plan is incomplete.

2. The Environmental Impact Report on the Plan should be given adequate time for review. This is a major decision for the cities in Los Angeles County because of the implications (life styles, economics, etc.) and I do not believe that with the holidays, ongoing city business, and personal commitments of Mayors and Councilpersons, that ten days is adequate.

3. There appears, from the information that I have been given, to be inadequate analysis of the economic implications and effects. Completion of this scenario needs to be accomplished before the Plan can be, or should be, adopted. In fact, it should be a part of the Plan.

- 33-1 Your comment is noted. Please refer to the response for comment 9-11.
- 33-2 Your comment is noted. Please refer to the response for comment 2-14.
- 33-3 Your comment is noted. Please refer to the response for comment 49-1.
- 33-4 Additional information concerning the costs and economic implications of the AQMP can be found in Appendix F -- Socioeconomic Impacts of the Air Quality Management District.

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33-5

- 4 Articles in the newspaper indicate that the Environmental Protection Agency has issued a report and an executive summary of that report that directly affects the SCAQMD and their Air Quality Management Plan. Has the Board reviewed that report and, just as importantly, have all the cities and their elected officials been made aware of this report and had access to it for review and comment?

33-5

These are not issues which must be addressed by an EIR under CEQA.

33-6

5. As noted in the Draft 1988 AQMP, Glendora is the city that exceeded more often the Federal and State standards for ozone. Burbank reported the greatest number of days exceeding the State standard for visibility. It would seem appropriate that when this Plan is discussed and eventually passed by the South Coast Air Quality Management District Board that a representative from Los Angeles County, who would be those cities' representative, be elected and properly seated on the Board, even if that means a decision must be postponed on December 16.

33-6

Two representatives of Los Angeles County cities have been appointed to the District's Governing Board and will participate in the AQMP adoption hearing.

In Glendora, we will continue to review and formulate comments on the Plan and the additional information as it comes to us. When a City is impacted as heavily as ours, it is important for us to find solutions to the problem. However, we have always been known for our rational approach to problem-solving and rarely jump to conclusions. That means for us to support this Plan, we will have to be provided with all the information in completed form and in a timely fashion.

I will be at the meeting on December 16, however, I will now, as I will then, request that this item be continued until the above five items can be responded to by the South Coast Air Quality Management District Board.

Sincerely,



Lois M. Shade
Mayor

JS

cc: SCAQMD Board Members
Supervisor Schabarum
League of California Cities Executive Board
ICA Executive Board
California Contract Cities
Ginger Bremberg, Burbank

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October 27, 1988

Clarification of and Supplement to Oral Comments upon the DEIR
For the Draft AQMP, Delivered by Bryan Allen on October 24

RESPONSES TO COMMENTS
BRYAN ALLEN (10/27/88)
COMMENT LETTER #34

CLARIFICATORY COMMENTS

1. My oral comment "I request maximal individuation in responding to my comments" should be understood with the sub-junction "notwithstanding that CEQA does not require this." (Individuation means giving of individuality, the determination or identification of the individual from the general, distinction from others of the species, individualization.)

2. My request for preparers of responses to comments for the FEIR to apply suggested "internal working guidelines" should obviously be understood as referring to special, supplemental ad-hoc guidelines and not specifically as a request to amend the lead agency's CEQA guidelines required by 14 Cal. Ad. Code Section 15022(a)(1)(C)(7).

3. That same request should be understood to refer to all comments submitted by all parties, not just mine, and, as I said, "notwithstanding that CEQA does not require this."

4. Please do not evade my oral procedural comments by insisting that the lead agency already complies with 14 Cal. Ad. Code 15088(b), second-to-last sentence, a provision casually and consistently ignored by lead agencies short of provable prejudicial abuse of discretion.

5. The DEIR, pg. 4-12-15, appears to refer erroneously to measures 11-A and 11-B instead of 12-A and 12-B (DAQMP pp. 4-12 & 6-13 and DAQMP App. IV-G pp. 186-196). Accordingly, my oral comments should be held harmless for error consequent to the AQND's error.

6. One of my oral comments pertaining to measure 12.b should be corrected to read "I contend for the record that this set of impacts is at least cumulatively significant". (This is an example of the imprecision in expression to which I referred.)

7. The "construction of adequate drainage facilities" does not inherently assure avoidance of site-specific soil erosion consequent to measure 12.b. Please avoid related bureaucratic debunking of one of my oral comments.

8. My oral comments should not be interpreted to disparage "installing automobile and truck wheel washers", except that the water consumption impacts and their significance or insignificance must be documented with supporting evidence.

SUPPLEMENTARY COMMENTS

9. What magnitude of PM10 emissions could result from Portland Concrete paving of the facilities envisioned in measure 12.b, including in the transportation and handling of the un-mixed P.C.C. and during road maintenance?

10. What magnitude of ROG (and any other) emissions could result from asphaltic paving of those facilities, including during road maintenance?

34-1 Your comment is noted.

34-2 Your comment is noted and will be incorporated in the Final EIR for the AQMP after Board adoption

34-3 Erosion impacts from the paving of currently unpaved roads and parking lots are not expected to be significant. Construction of adequate drainage facilities should help mitigate any soil erosion impacts resulting from the implementation of control measure 12b (Unpaved Roads and Parking Lots).

34-4 Projected water demands for the Basin are addressed in Chapter 3 -- Existing and Forecast Setting in the Basin. As indicated in this section, projected water demands will increase substantially in the future. Some of these increases could result from the implementation of several of the control measures. Chapter 4-2 contains potential water quality impacts associated with certain control measures. Any increases in water use should be off-set, to the extent possible, through the use of water conservation and re-use techniques.

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(Comments, cont', 10/27/88)

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- 34-5 11. What substantial evidence can the lead agency adduce to support its response to item 1.e on the environmental checklist? (Cf. oral comments and comment 7 previously.)
- 34-6 12. Is it not well known that thermally exogenous fauna tend to be attracted to and congregate on paved roads during evening twilight to absorb their residual heat? How many additional reptiles would be killed per year cumulatively due to measure 12.b? Are any endangered species among these fauna in the areas affected by measure 12.b?
- 34-7 13. What are the sources of the 541.19 tons per annual average day of the (road dust?) PM10 inventory not controlled upon implementing Tier II in 2010 by measure 12.b. per p. 257, DAQMP App. IV-G?
- 34-8 14. Environmental setting. What is the chemical composition of each of the categories of PM10 emissions shown on pp. 255-257 of DAQMP App. IV-G? Relate this to my relevant testimony.
- 34-9 15. Environmental setting. What magnitude of PM10 emissions will be generated by which natural events in the years 2000 and 2010, particularly of the same and/or similar composition as/to road dust?
- 34-10 16. What ministerial responsibilities do state and federal law impose upon the lead agency with respect to controlling PM10 emissions and with particular respect to controlling one or another type of PM10 versus all types?
- 34-11 17. Considering natural sources of PM10 emissions, such as "wind erosion of soil", is measure 12.b. really the most effective, feasible method of discharging the lead agency's ministerial responsibilities to control PM10 emissions?
- 34-12 18. Alternatives/mitigations. What methods are available for controlling natural PM10 emissions? What is their potential effectiveness? Might not some actually enhance floral environments while avoiding the adverse effects of measure 12.b?
- 34-13 19. My oral testimony was in error in referring to measure 12.b (formerly 11.b) only in the context of Tier I. I should have cited Tiers I and II.

- 34-5 Direct impacts to earth resources in the form of wind or water erosion as a result of implementing the AQMP was not expected to occur. As a result of comments received to the Notes of Preparation, the District included a short discussion of this issue in Section 4-19 of the EIR. Please refer to this section and responses to comments 2-9.
- 34-6 The areas identified for pairing already exist as roads and parking areas, the potential for destruction of individual animals also exists. Pairing unpaved roads and parking lots may increase use by individual animals seeking heat from the pavement. Because the amount and location of pairing that may occur is unknown, it is not possible to quantify this impact or identify the types of species that will be impacted. Please refer to response to comments 2-5 and 2-12.
- 34-7 The remaining sources of dust are paved and unpaved road dust emitted from tire interaction with dust particles on the road.
- 34-8 The chemical composition of the PM10 emissions from each source is not known. The concentrations of PM10 particles in the ambient atmosphere are analyzed at many locations and are discussed in Appendix V-G.
- 34-9 It is not possible to answer this question because no one can forecast natural events that may cause dust emissions in either the short-or long-term.
- 34-10 Aside from setting ambient air PM10 standards federal and state laws do not establish ministerial responsibilities for controlling specific PM10 emissions. Certain regulations do specify PM10 emission limits which are addressed (usually exceeded) in District rules and regulations. Please refer to the District rules and regulations for specifics.
- 34-11 Measure 12.b (page 4-12 of the Draft AQMP) represents a specific source that can be integrated with all other measures to reach attainment with PM10 standards. It is considered an important contributor to this goal.
- 34-12 The AQMP does not address controls for natural PM10 sources. No methods that might increase natural dust suppression are known that would not disturb or alter natural ecosystems. Manipulations of plant habitats is not proposed and enhancements, if any, are unknown.
- 34-13 Your comment is noted.

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"YOUR IDEAS FOR THE DRAFT AQMP"

Please take a moment to share your ideas with us. We'd like to know what you think about any or all of the Policy Issues raised. Also, please let us know if you feel that there are other issues that need to be considered in the Draft AQMP.

p. 1

Don't expect industry to continue to pay for 100%
 of the cost. The public must start to pay its share.
 Also, another issue that was not touched is energy conservation.
 If industry and the public could stop wasting so much energy,
 then our refineries would pollute less.

Please tear out this sheet and turn it in at the SCAQMD/SCAG meeting you are attending or mail to:

Public Advisor
 South Coast Air Quality Management District
 9150 Flair Drive
 El Monte, CA 91731

☒ Yes

Please notify me of future meetings.

Name Ken Barber - Asst. Facilities Engineer
 Address Kirkhill Rubber Co
200 E. Cypress
Brea, CA 92621

RESPONSES TO COMMENTS
 KEN BARBER-KIRKHILL RUBBER CO. (10/25/88)
 COMMENT LETTER #35

35-1

Energy conservation is stressed as an important component of the overall AQMP. The energy conservation measures described in the Plan are targeted to achieve a 15percent reduction in energy use by the year 2000 and a 39percent reduction by the year 2010. These are ambitious, cost-effective energy reduction goals. Additional conservation could be achieved through local government, utility, and industry programs which provide incentives and direction for additional energy conservation measures. Utility-sponsored weatherization audits can assist homeowners in identifying the most cost-effective means of conserving energy. California's original Weatherization Financing and Credits Program was discontinued in March 1986, but a similar program could be revived.

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 10/25/88

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION
6809 INDIANA AVENUE SUITE 200
RIVERSIDE CALIFORNIA 92506
PHONE (714) 782 4130



RESPONSES TO COMMENTS
CRWQC BOARD SANTA ANA REGION (11/28/88)
COMMENT LETTER 36

November 28, 1988

Brian Farris
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

EIR: 1988 REVISION TO THE AIR QUALITY MANAGEMENT PLAN,
SCH #88021022

Dear Mr. Farris:

We have reviewed the revised EIR for this project and have the following concern:

36-1 Projects designed to prevent/alleviate air pollution which require use of carbon systems or generate wastewater contaminated with hazardous materials are a potential threat to water quality.
36-2 Similarly, increased use of products with more acceptable emissions, such as methanol, may require a much larger volume of the substitute product, thereby increasing possibility of spills and accidental release into water supplies.

36-3 We appreciate the air pollution problems SCAQMD seeks to remediate. However, when air control measures require alteration of existing systems with processes/products which potentially threaten water quality, we recommend that protection of water quality be inherent in the design of the air control measures. Best management practices for use and handling of hazardous materials should be implemented to prevent any degradation of water quality.
36-4 Any discharge of contaminated wastewater either to surface waters or to the ground requires a permit from this office. Discharge of contaminated water to the sewer system requires permission from the agency which provides the service for that system. Both permit and/or permission must be obtained prior to such discharge.

Sincerely,

Anne Knight
Environmental Specialist

cc: Keith Lee, State Clearinghouse, w SCH Form

AK (4) 2549

36-1 Your comment is noted. Please refer to the response to Appendix SCE #4 which addresses your comment on the use of carbon adsorption systems. Potential water quality impacts are addressed in Section 4-2 of the December EIR.

36-2 The potential impacts of methanol on water supplies are addressed in the December EIR on pages 4-2-6 to 4-2-7 and on pages 4-9-4 to 4-9-7.

36-3 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Please refer to the response to Comment #2-which, in part, addresses cross-media impacts.

36-4 Your comment is noted.

If water is used as a regenerant, the resulting contaminated waste water may create water quality impacts. In addition, if the contaminated waste water does not receive appropriate onsite treatment before being released into public sewers, publicly owned treatment works may be significantly affected.

Any facility discharging contaminated waste water must meet applicable federal, state, or local laws or regulations concerning regulatory limits for substances discharged into public sewers. The EPA sets category limits for discharging waste water containing toxics into public sewers. In some cases, California uses the federal limits rather than setting a different state standard. There are separate (different) limits for total toxic organics and inorganics. Benzene, a volatile organic compound, is of greatest concern in the Basin as its ambient atmospheric concentrations are greater than for all of the other toxics being regulated by the Proposed Rules (C. Lum. pers. com.), except for hexavalent chrome (an inorganic metal).

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In addition to the above regulatory requirements, any facility using control equipment affecting water quality, that is, onsite equipment used for regenerating spent carbon, must receive a permit to operate from the local sanitation district. In cases where facilities modify their equipment or install add-on controls, owner/operators must notify the local sanitation district to have their existing permit reviewed and modified. A new permit for existing equipment is not required.

"YOUR IDEAS FOR THE DRAFT AQMP"

RESPONSES TO COMMENTS
W. J. FASSLER (8/19/88)
COMMENT LETTER #37

Please take a moment to share your ideas with us. We'd like to know what you think about any or all of the Policy Issues raised. Also, please let us know if you feel that there are other issues that need to be considered in the Draft AQMP.

37-1

We strongly support your goals in improving air quality in the LA basin. In fact much has been accomplished in the last decade. An AQI study shows the LA basin to be within Federal standards 97.3% of the time, and we know the EPA bases its measurements on a worst case basis which does not reflect the progress being made. Perhaps one of the AQMP goals should be to develop better procedures for measuring air quality more accurately. We need a plan that imposes negative measures that work without imposing unreasonable sanctions that could have a devastating impact on our economy. Industry can help in a more proactive, cooperative and less confrontational manner. Refer to attached press release - which by the way got little if any attention.

Please tear out this sheet and turn it in at the SCAQMD/SCAG meeting you are attending or mail to:

Public Advisor
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

☒ Yes

Please notify me of future meetings.

Name
Address

W. J. FASSLER
Regional Vice President
Chevron USA Inc.
700 So Flower St. Suite 1426
LA. CA. 90017-4236

37-1

The National Ambient Air Quality Standards are established based on the adverse health impacts of the pollutants. To protect public health, it is important that pollutant levels remain consistently below the standards. Procedures for measuring air quality accurately already exist and progress made thus far is discussed in Appendix II-A and II-B of the 1988 AQMP.

Also, please refer to the response for Comment 44-6.

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COUNTY SANITATION DISTRICTS

OF ORANGE COUNTY, CALIFORNIA

P.O. BOX 8127, FOUNTAIN VALLEY, CALIFORNIA 92728-8127

10844 ELLIS, FOUNTAIN VALLEY, CALIFORNIA 92708-7018

(714) 962-2411

**RESPONSES TO COMMENTS
COUNTY SANITATION DISTRICTS
OF ORANGE COUNTY (12/14/88)
COMMENT LETTER 38**

December 14, 1988

Dr. James Lents, Executive Officer
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

SUBJECT: 1988 Final Air Quality Management Plan (AQMP) and
Final Environmental Impact Report (FEIR)

Dear Dr. Lents:

The County Sanitation Districts of Orange County support efforts by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) to prepare a viable plan with the objective of improving air quality and achieving the ultimate goal of meeting National Ambient Air Quality Standards (NAAQS) for the South Coast Air Basin (SCAB).

The purpose of this letter is to not only voice support for attainment of difficult airshed environmental goals, but to also provide you with a better understanding of the potentially significant environmental and other impacts certain proposed control measures will have on the Orange County Sanitation Districts and other Publicly Owned Sewage Treatment Works (POTW's) in the SCAB that provide a non-discretionary essential public service. These impacts include financial and staff resources, facilities and the ability to meet national and local water quality standards.

At the SCAQMD October 27, 1988 hearing we provided testimony that two proposed control measures will have an adverse impact on our ability to meet public health and wastewater management, water quality and other environmental protection objectives. These control measures are: C-2, Control of Emissions from Non-Utility Internal Combustion Engines, regarding the proposed elimination of all stationary internal combustion engines; and D-3, Control of Emissions from Publicly Owned Treatment Works, which targets POTW's for control of reactive organic gas emissions. Since October a renamed measure, E-2 regarding proposed utilization of POTW's for controlling emissions caused from livestock waste, has now come to our attention, which also has potentially significant environmental and other impacts on the activities of POTW's.

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Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP. Revisions to control measures discussed in responses for comments 38.3 appear to resolve many of these concerns.

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38-2

We remain concerned that the final SCAQMD responses to the Sanitation Districts comments do not adequately address the full environmental and other impacts related to the two measures. A discussion of the referenced FEIR deficiencies follows. It is our position that the subject measures are appropriate in concept. However, the designation of the type and scope of identified mitigation measures limits the flexibility for our Districts' and other POTW's application of other equivalent emission control strategies that have less impact on our health and environmental protection programs.

38-2

Your comment is noted. Please refer to responses for comments 38.

38-3

C-2: Control of Emissions From Non-Utility Internal Combustion Engines

Control measure C-2 calls for the eventual elimination of all stationary internal combustion engines (ICE) in the SCAB, but allows the continued operation of generator-engines that are fueled with methanol. We believe that imposition of this measure C-2 on our Sanitation Districts and other POTW's will likely result in a net increase in NO_x emissions from wastewater treatment facilities.

38-3

Currently, our Sanitation Districts own and operate twenty-four digester gas-fueled stationary ICE's. In the near future we plan to replace all those engines with sewage digester gas-fueled, state-of-the-art, clean-burn ICE's that will drive electric generators. In addition to being the most reliable and efficient means of assuring continuous operation of our sewage treatment plants and our ability to meet federal and state mandated water quality standards, we have determined that this is also the most reliable way of achieving the environmental goals of reducing criteria air pollutants while providing the best utilization of the waste by-product, digester gas. This is supported by a recently completed health risk assessment, which was approved by California Air Resources Board (CARB), California Department of Health Services (CDOHS) and SCAQMD, which demonstrated acceptable levels of health risk associated with the central power generation projects planned for our wastewater treatment plant facilities.

Digester gas is a naturally derived by-product of the wastewater treatment process and contains significant quantities of both carbon dioxide and methane gases. Generally, the gas contains over 60% methane with the balance being carbon dioxide. This quantity of carbon dioxide in digester gas is sufficient to beneficially retard the formation of oxides of nitrogen (NO_x) in the cylinders of the ICE during combustion. The carbon dioxide contained in sewage digester gas provides a non-combustible heat-sink which results in lower combustion zone temperatures and hence, lower NO_x emissions. Field testing of ICE's for emissions of NO_x in our treatment plant has demonstrated that use of digester gas results in NO_x emissions 40% to 60% lower than those

The December, 1988 EIR text on page 4-18-3 will be revised in the Final EIR (to be compiled after an AQMP has been adopted). The first sentence under "MITIGATION" will read: This impact could be mitigated by use of an alternative clean fuel which results in overall emission reductions equivalent to the use of clean fuel in ICE generators.

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emissions using natural gas under the same operating conditions (same BTU's consumed).

38-4 Based on this documented field experience, the new clean-burn engines to be installed by the Sanitation Districts, using sewage digester gas should also result in similar lower emissions of NO_x when compared to natural gas use. The alternatives to utilizing the digester gas as a resource to fuel ICE's is to flare (burn) it to the atmosphere. If the digester gas is wasted in flares rather than utilized in ICE's, additional criteria pollutant emissions will result.

Therefore, if the Sanitation Districts were forced to switch fuels from digester gas to methanol as designated by control measure C-2, methanol engine emissions plus waste-gas flare emissions would result. Hence, operating clean-burn engine generators on methanol would likely result in higher emissions of NO_x and CO than would result with digester gas fuel. It should be noted and emphasized that the effective use of methanol fuel has not yet been demonstrated in large (greater than 3,000 h.p.) stationary engines.

38-5 We strongly recommend a language change to the FEIR Section 4-18: Economic Impacts: Internal Combustion Engines: (Pg. 4-18-13) to change the first sentence from "This impact could be mitigated by methanol fueling for IC-powered cogeneration", to read "This impact could be mitigated by use of an alternative clean fuel which results in overall emission reductions equivalent to the use of methanol fuel in ICE generators". The suggested change provides for applicant flexibility, the consideration of digester gas as a clean fuel in internal combustion engine generators, no degradation of air quality and allows for future technology/clean fuel development.

D-3: Control of Emissions From POTW's

This measure identifies Publicly Owned Treatment Works as a target for reactive organic gas (ROG) controls. These controls would be employed to reduce emissions of fugitive ROG which are normally released to the air during routine operation of wastewater treatment facilities. The exact amount of fugitive ROG emissions depends on the type of dischargers to the sewers and the unique physical configuration of each treatment plant.

The control measure specifies increased POTW source control activities on industry as the primary method of reduction for volatile organic solvents that end up in the air at the POTW. The Sanitation Districts support this concept for control.

38-6 However, control measure D-3 also provides that if fugitive emissions of ROG are still significant after implementation of a volatile solvent source control program, POTW's must install scrubbers or carbon canisters for the control of fugitive ROG's. This secondary provision fails to recognize the lack of identified or available technology to meet the proposed secondary

38-4 Your comment is noted. Please refer to response 38-3.

38-5 Your comment is noted and the change requested has been addressed in response to comment 38-3.

38-6 Please refer to response comment 7-3. The control measures represent goals that when considered for implementation must meet the test of being effective. If such technology is not available or not capable of being implemented the District could not implement such a rule.

control requirements. In the absence of proven technology, the expenditure of public resources required to develop and implement a full-scale control technology without proven effectiveness for application to POTW processes would be substantial and premature.

We are equally concerned about the potential cross-media impacts associated with the use of "secondary" control technology and the absence of adequate evaluation or assessment of these impacts. For instance, air quality and other environmental impacts resulting from the use of large quantities of activated carbon are not addressed adequately in the AQMP or FEIR. These include: production, transportation, handling, operation, regeneration and ultimate disposal of "spent" carbon.

The full impacts of carbon use depend on various factors including whether on-site regeneration is employed, transportation logistic requirements, and carbon-bed reliability against premature organic gas "break-through". Of particular concern are the large volumes of air that would be handled and treated with this technology. Total air handling requirements for our facilities would be approximately one million cubic feet per minute. This huge volume of air would require very large amounts of activated carbon and electric power as well as additional staffing to operate and maintain the new facilities required, each of which can precipitate its own significant air emission impacts.

The FEIR response to our initial comments regarding control measure "D-3" talks of carbon beds lasting 5-10 years (FEIR, Appendices, Dec. 1988 - pg. 64). However, no information is given as to the bed size (pounds of carbon), capacity, type of organic(s) removed, and hours of operation. POTW experience with activated carbon odor control units has demonstrated very short carbon-bed life (2-4 months) for organic vapors as well as hydrogen sulfide odors. For odor control, caustic wet scrubbers have proven to be more effective than use of activated carbon. However, the caustic wet scrubber cannot remove ROG emissions due to the relative insolubility of organic solvents in aqueous solutions.

Increased thermal generation of activated carbon is very unlikely in the SCAB because of its conflict with other air quality attainment goals. Hence, transportation and handling equipment emissions resulting from transport of activated carbon in and out of the air basin need to be understood. There is no railroad right-of-way to the Orange County wastewater treatment facilities nor to most other POTW's and clean fuels for heavy duty trucks are still evolving.

The total resource needs for use of ROG control technology are unknown. However, we estimate that, for activated carbon use, our operating budget would be increased by 50% or more (on the order of a \$15 million increase per year) for this control measure alone.

Cross-media impacts are the focus of evaluation at the rule implementation stage when the concerns raised in your comment can be quantified or addressed to the satisfaction of the District Board.

Your comments are noted. Please refer to response for comment 38-7. The concerns you raise are valid and the District must take into account the net air pollution impacts, as well as all other impacts when considering a rule implementing control measure -3.

38-8
cont Finally, the FEIR for the AQMP identifies the additional air quality improvement from the control of ROG by POTW's as being insignificant, to wit: "the relatively minor reductions of ROG emissions resulting from these control measures are not expected to have significant effects on ambient ozone concentrations" (FEIR, Dec. 1988 - pg. 4-1-31). Clearly, the lack of any cost effective benefit would result in an unacceptable waste of limited public resources.

38-9 We strongly recommend FIER the Section 4-2 language, Water Impacts: Control of Fugitive Emissions from POTW's Setting (Page 4-2-7), be changed in the last sentence to read: "This measure calls for more stringent limits on industrial effluent put into the sewer and, if found necessary, additional control strategies to be applied by POTW's that result in mutually acceptable reductions of ROG."

E-2: Control Of Emissions From Livestock Waste (Now Titled: Combustion of Digester Gas)

This control measure deals with controlling emissions caused from livestock waste. The measure identifies five control strategies, two of which call for control by utilizing publicly owned sewage treatment facilities. These two options involve anaerobic digestion and ultimate waste disposal to POTW's.

We apologize for not offering comments on this issue in October. However, this control measure was originally overlooked in our review of the draft AQMP/EIR, because it was discussed under "Agricultural Processes" and control measure E-2 itself was originally entitled "Control of Emissions from Livestock Waste". I am sure you can appreciate this oversight with the limited time provided for public review and the length of the document. The Sanitation Districts were alerted only after the title was changed to "Combustion of Digester Gas" in the FEIR.

38-10 We have now had the opportunity to review this proposed measure and must advise you that there are significant adverse environmental impacts associated with the selected option of anaerobic digestion of livestock waste with the digested waste effluent ultimately being discharged to the Orange County Sanitation Districts sewerage system.

The Sanitation Districts have not been consulted on this proposed measure. This is particularly unsettling in light of the fact that we have embarked on a major facilities planning process, unprecedented in scope, that will address the wastewater management needs of Orange County Sanitation Districts' service area for the next 30 years. Among other things, this effort, entitled: "Action Plan for a Balanced Environmental Management: Protecting Orange County's Coastal Waters", includes an EIR. We

38-9 Your comment is noted. The December, 1988 EIR will be changed to page 4-2-7. The last sentence of "SETTING" will read: This measure calls for more stringent limits on industrial effluent put into the sewer and, if found necessary, additional control strategies to be applied by POTW's that result in AQMD-acceptable reductions of ROG emissions.

38-10 Your comment is noted.

38-11 Please refer to response to comment 38-7.

38-12 The impacts identified in your comment represent a good qualitative evaluation of potential adverse impacts from implementing measure E-2. To address these potential impacts the following mitigation measure language has been developed: The digester gas can be processed to achieve a uniform, pipeline quality standard, or alternatively, combusted using appropriate BACT. The remaining issues will have to be addressed during review of a specific rule. Based on the implementation language, the ability of waste water treatment facilities to handle the wastes; to process it and remain within waste discharge requirements; and to ultimately dispose of the increased residual products would be determined.

38-13 Your comments are noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

provided the SCAQMD with formal notification of this process in a "Notice of Preparation" dated January 14, 1988, in accordance with California Environmental Quality Act (CEQA) requirements.

38-11 The proposed control measure would result in inter-media (air, water and land) waste transfer. Thus, the net benefits to air quality from this measure should be carefully weighed against the adverse environmental impacts to the water, the land and, in fact, the secondary impacts on air quality from burning of the additional digester gas that it will produce. Specific waterborne wastes impact groundwater recharging efforts from reclaimed wastewater, marine ecosystems and food-chains, landfill and groundwater impacts from leachate. Further, waterborne wastes impact the amount and quality of digester gas production and the criteria air emissions resulting when digester gas is burned.

38-12 The FEIR identified mitigation measure for any increase in digester gas from manure wastes is the "cleanup" of the digester gas to natural gas pipeline quality and the deliverance of the gas to the natural gas distribution system. This option may result in an increase in NO_x emissions as compared to burning the digester gas. The earlier discussions involving digester gas as a clean fuel illustrate that point. Also, the willingness of the natural gas wholesalers and retailers to purchase and use "foreign" gas with its potential quality and liability problems must be determined.

Handling the manure or digested manure from the Chino livestock area would pose an adverse impact of enormous proportions on the future ability of the Sanitation Districts to meet the wastewater management needs of metropolitan Orange County. To illustrate the magnitude of the issue, the equivalent waste load of the population of the milking herds of western San Bernardino County, proposed to be discharged to the Districts' Santa Ana River Interceptor system, is approximately the same as the entire existing 2,000,000 plus human population of Orange County. Obviously, this new waste stream would have significant impacts on the Sanitation Districts space and facilities needs and their ability to dispose of the resulting increase in wastewater, and wastewater residuals, such as sludge and digester gas to the three environmental media.

38-13 In summary, we believe that extensive additional study of all the impacts is required before this proposed measure can be considered for adoption. It is the Sanitation Districts' position that these adverse impacts must be adequately addressed in the final EIR. Because this measure was easily overlooked under an agriculture title, its applicability to wastewater was not readily apparent initially. Thus public comment from the Sanitation Districts and other POTW's in the SCAB was not presented in the previous DEIR hearings for this measure. In

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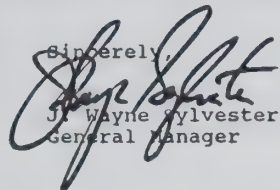
38-13 Your comments are noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

38-13 view of the importance of this control measure, we respectfully
cont request a new hearing on the AQMP measure E-2 and its FEIR.

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The Sanitation Districts appreciate this opportunity to comment on the AQMP and, its EIR. Once again we wish to reiterate our support of air quality goals. Our comments are intended to be constructive. As always, we stand ready to work with you and your staff to resolve these important issues in a positive manner that we believe can allow both the Air Quality and Sanitation Districts to meet their mutual goals of protecting public health and the environment.

Please feel free to contact Mr. Blake Anderson, our Director of Technical Services when it is convenient to meet and review these issues at (714) 962-2411.

Sincerely,



J. Wayne Sylvester
General Manager

JWS:SHS:au
REF#U445



SIERRA CLUB — ANGELES CHAPTER

3550 WEST SIXTH STREET, SUITE 321, LOS ANGELES, CALIFORNIA 90020
(213) 387-4287

RESPONSES TO COMMENTS
SIERRA CLUB (10/27/88)
COMMENT LETTER #39

October 27, 1988

Suzanne Reed
Special Projects Coordinator
SCAQMD
9150 Flair Drive
El Monte, CA 91731

Re: Draft 1988 Air Quality Management Plan (AQMP)

Dear Ms. Reed:

The Angeles Chapter of the Sierra Club has reviewed the draft AQMP. We are pleased that the SCAQMD has taken an ambitious approach to solving this basin's air quality problems. We support the concept that the plan should bring the South Coast Air Basin into compliance with federal and state standards. It is true that many people choose to live in this basin in spite of the air pollution. However, children, who are extremely sensitive to air pollution, have no choice.

In general, we strongly support the content of the AQMP. The broad scope of emission reduction strategies considered is highly commendable. Also to be commended is the fact that the plan distributes the burden of cleaning our upon both industry and residents. However, as might be expected, we do take issue with certain parts of the Plan. We would like to take this opportunity to express our concerns and suggest improvements to the Plan. Our comments are mainly concerned with Plan implementation and contingency planning, public education, and new source review. We also have comments concerning energy conservation, NO_x goals, stationary source rules, transportation, and diesel fuel content.

PLAN IMPLEMENTATION AND CONTINGENCY PLANNING

The Sierra Club is very concerned about the feasibility of implementing the measures contained within the AQMP. Many of the measures in the Plan are not currently technologically feasible or depend on local governments for implementation. The Plan contains some ideas to assure its implementation, but more can be done. Specifically, the following measures can be promulgated:

- o Incentives should be given to local governments which implement measures in the AQMP. Possibilities include lower fees and preferential granting of permits to industries within a complying municipality. Lower fees could be required of indirect sources

(Responses to comments begin on a following page)

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within these municipalities as well. Another possibility is to fund more extensive mass transit in these localities.

- o Meet with grass-roots organizations to assist lobbying efforts. As an example, the Sierra Club has active members in every municipality in the South Coast Air Basin and can easily establish letter-writing and phone-calling campaigns targeting local governments. Grass-roots organizations need adequate communication with the SCAQMD so that they have time to organize this type of campaign.
- 39-1 o Draft formaldehyde emission standards for vehicles. One roadblock to widespread use of alternative fuels vehicles is concern over formaldehyde since it is a carcinogen. The formaldehyde standard should be used to lower the overall carcinogenic risk created by benzene in gasoline.
- o Rewards could be established for particular technological breakthroughs, especially those breakthroughs required under Tier III strategies. A reward can focus a great deal of research activity in a particular area. Another advantage of a reward is that it is only necessary to pay it out when the end result is achieved.
- o As a general rule, measures which limit or discourage driving will have much greater acceptance and success when there is a good mass transit system available as an alternative.

It is probable that some contingency measures will need to be implemented. We are concerned that contingency measures have only been stated in general terms. If contingency measures are not thought out in advance, they probably cannot be implemented in a timely manner. A contingency plan should have:

- o Specific measures to be implemented;
- o The conditions under which each measure will be implemented;
- o If necessary, the date by which each measure would be implemented.

We state here several measures which would be part of a contingency plan. Several of these measures fall within AQMP Measure Numbers T-1 - T-6.

T-1 Emission Charges on Gasoline and Diesel Fuels Used by Motor Vehicles

- o Make the annual vehicle registration fee proportional to mileage driven during the previous year. Some people have worried that such a scheme will encourage people to cheat by rolling back their odometers; however, since this is rare among people selling used cars, it would presumably be rare under this measure.
- o For automobiles less than seven years old, set the annual vehicle registration fee proportional to the emissions characteristics of the vehicle. Older vehicles would not be subject to this

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The ARB is currently in the process of drafting emission standards for methanol-fueled motor vehicles. These standards are to include emission standards for formaldehyde. Attachment 6 provides discussion on the safety level of formaldehyde exposure.

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restriction even though they often have some of the worst emissions characteristics since they are frequently the only vehicles that people with low incomes can afford. The improvement of the mass transit system to the point where it is good enough to conveniently serve all of a person's transportation needs would eliminate the need for this restriction.

T-2 Emission Charges on Parking Lots

- o Restrict parking in congested areas (including downtown) to people who carpool when air pollutant levels are projected to exceed a particular threshold. This threshold could be either the standards set forth in the federal clean air act, or it could be a higher level such as a first stage alert. A parking ban could be enforced when pollutant levels are predicted to exceed a higher threshold.
- o Ban the creation of additional parking spaces in congested areas.
- o Levy a tax on the owners of all nonresidential parking spaces. The money from the tax should be used for mass transit.

T-4 Emission Charges on Vehicle Use

- o Create a subsidy/penalty system for electric/solar versus non-electric/solar vehicles. Electric/solar vehicles registered in the South Coast Air Basin for the first time would receive a \$2000 dollar rebate, with this rebate to be paid for by a tax on non-solar/electric vehicles registered in the South Coast Air Basin for the first time. The tax on new non-solar/electric vehicles would never exceed \$2000 and be on a sliding scale depending on the emissions profile and fuel efficiency of the vehicle. Once 50% of the vehicles registered in the South Coast Air Basin in a given year were electric/solar powered, the differential incentive between electric/solar vehicles would be maintained at \$4000. The point of this measure is that when electric/solar vehicles are inadequate for most people's needs, the penalty for purchasing a gasoline powered vehicle will be insignificant. As electric/solar vehicles improve and suit the needs of more people, the penalty for purchasing a gasoline powered vehicle will increase.

T-5 Reduction of VMT (Vehicle Miles Traveled) to 1985 Levels

Measures delineated in this section should also be considered as primary regulations rather than contingency measures. They could all be included under the Tier I strategies.

- o Create a regional bus authority to coordinate mass transit across local government boundaries within the entire South Coast Air Basin.
- o Automatically create bicycle lanes whenever a street is resurfaced, unless parallel lanes exist within one eighth of a mile.

Residential streets with speed limits of 25 mph or less would not require physical separation of bicycles from traffic. Funds for proper cleaning and maintenance of bike lanes must also be provided.

- o Create and maintain bicycle lanes along railroad and flood control right of ways.
- o Use feeder vehicles to the mass transit system. These should include jitneys and the use of rental vehicles such as bicycles and electric cars.
- o Further subsidize mass transit fares.

T-6 Highway User Fees

- o Instigate tolls on any new highways. Electric/solar vehicles would either be exempt or subject to reduced tolls.

PUBLIC EDUCATION

A strong public education program should be made a part of the Plan. This program would focus on what individuals can do to reduce air pollution. Public education, if successful, will clean the basin's air by people voluntarily changing their lifestyles. Major measures in this program would include:

- o Development and distribution of a model curriculum in the public (and private) schools. The curriculum would focus on how an individual can reduce the amount of air pollution he or she creates. Benefits can be expected in the long run from modifying the habits of the students. There would be benefits in the short term as well from students coming home and telling parents what they learned in school that day.
- o Use of other traditional educational modes such as radio and TV campaigns, articles in local newspapers, etc.

Topics for the public education program would include:

- o Encouragement of carpooling and use of mass transit.
- o Purchasing low polluting appliances. Pollution would be measured by energy consumption and the type of fuel burned.
- o The benefits of using electric or manual lawnmowers instead of gasoline-powered mowers, encouraging the use of rakes instead of leaf-blowers etc.
- o Discouraging the use of sprays as opposed to pumps.
- o Encouragement of energy conservation.

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Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

Hiring additional full-time staff to develop and disseminate educational materials is a necessary part of this program. The Sierra Club would be quite willing to assist the SCAQMD in carrying out a public information campaign.

NEW SOURCE REVIEW

The Sierra Club is concerned that the proposed new source review rule will not gain popular acceptance, as it has the potential to prohibit virtually all business growth in this basin. Since two thirds of the anticipated population increase in the basin is from births, we do not feel this is a realistic rule. We propose that the adopted rule conform with the following principles:

- o The rule should be usable as an attainment strategy.
- o The rule should provide for growth compatible with air quality goals.

Within these constraints, there are a variety of strategies that can be used. The following are a listing of ideas which could be part of the new source review rule.

- o This rule will apply to all new and modified sources. Included are both direct and indirect sources.
- o Emission offsets should be invested in a 'bank' rather than the emitting unit. Offsets would be placed in the bank at a ratio greater than 1:1 to mitigate indirect emissions that accompany a new source. Credits for shutdowns should be equivalent to emissions from a BACT controlled unit. The bank would then lease the offsets as opposed to selling them. All money for the lease would be paid at the start of the lease.

Differential rates would apply depending on the nature of the facility desiring the offset. Essential public services and companies which produce a net improvement in air quality (such as a solvent recycling facility) would be placed in the least expensive tier. The second tier would contain several fee rates depending on the anticipated jobs/emissions ratio of the facility.

- o Apply emission charges which approximate the marginal cost of control per ton. It is uncertain whether the SCAQMD has authority to apply this rule under the California Clean Air Act (AB2595 of 1988). If the district determines that it does not have this authority, it should draft provisions which would automatically take effect if authority was granted. The District should then actively seek this authority.

Money from the emission charges would be used for other projects which would improve air quality in the region. These projects could include research into new control technologies, purchase or subsidy of pollution control devices for older facilities with outdated

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control devices, subsidies for mass transit, jitneys, etc.

OTHER ATTAINMENT MEASURES AND IDEAS

Energy Conservation

The Plan should emphasize the importance of minimizing energy use in all aspects of the basin's economy. Energy efficient design codes, recycling, and cogeneration should all be made a part of the final Plan.

NO_x Controls

The Plan should place a high priority on reducing NO_x concentrations significantly below standards set in the Clean Air Act. As the District has recognized, NO_x reduction is also important for meeting the ozone standard. It should also be noted that the draft document "The Health and Welfare Effects of Acid Deposition in California: An Assessment (California Air Resources Board, September 1988)", states that "Los Angeles smog contains nitric acid at concentrations that are among the highest in the world." This document outlines the significant damage that acidic air can cause to human health and to building materials such as paints, rubber, and building stone. For these reasons, there are substantial benefits to be gained from reducing NO_x to concentrations below those established under federal law. The District should set a goal for NO_x below the federal standard specifically for the purposes of attaining the ozone standard and for reducing acid fog.

Stationary Source Rules

The District should proceed to retrofit existing industries to achieve emission levels comparable to new sources. A program of small business financial assistance should accompany this program. Funding could come from the emission charges outlined above.

An idea which should be given consideration is that of an air pollution minimization plan (APMP). This plan would be conceptually similar to hazardous waste minimization plans currently required. It should be noted that one of the reasons that hazardous waste minimization plans have produced benefits is that it is so expensive to dispose of hazardous waste. If measures such as emission charges make air pollution an expensive proposition for industry, air pollution minimization plans will be much more likely to be accepted and implemented by industry. A pilot measure would establish three tiers of emission charges:

- o Tier I emission charges (the most expensive) would apply to companies which did not file an APMP.
- o Tier II emission charges would apply to companies which filed an APMP.
- o Tier III emission charges would apply to companies which carried out

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the measures contained in the APMP.

Transportation

The Plan should include a stronger mass transit component. New sources of funding should be developed to support this component - both through legislation at the state level and through emission charges at the local level. In addition to transit-related suggestions made above, the district should seek state legislation to change the transportation pricing system to better reflect the full cost of transportation systems. One example of a step toward full cost pricing would be an increase in the state gas tax to better reflect both the costs of the infrastructure required to support the personal automobile, and the cost of damage caused by automobile pollutants.

Diesel Fuels

Emissions of diesel vehicles should be made comparable to automobiles. The Tier III strategy of requiring heavy duty trucks to operate on clean fuels should be given serious consideration.

SUMMARY

The Draft Plan is a very good plan. Improvements can still be made however. Additional strategies involving the use of public education, energy conservation, air quality minimization plans, and full cost pricing of transportation can all be used to attain air quality goals. The goal for NO_x concentrations should be lowered below federal standards in order to meet ozone goals and to minimize the damage caused by the basin's acidic air. The proposed new source review rule should be modified within the constraints that the rule be a strategy for attainment and permit growth compatible with air quality goals. Finally, the District should help ensure that the Plan can be fully implemented. In case some measures cannot be fully implemented, adequate contingency measures should be fully detailed, including the conditions under which each measure would automatically take effect.

We appreciate the opportunity for input into this Plan.

Sincerely,

Steven L. Glaser

Steven L. Glaser
Chair, Air Quality Committee

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OCT 17 1988



SRRI

SOURCE REDUCTION RESEARCH INSTITUTE

2716 Ocean Park Blvd., Suite 3025 Santa Monica, CA 90405-5284

**RESPONSES TO COMMENTS
SOURCE REDUCTION RESEARCH INSTITUTE (10/4/88)
COMMENT LETTER #40**

Oct. 4, 1988

Suzanne Reed, Special Projects Coordinator
South Coast Air Quality Mangement District
9150 Flair Drive
El Monte, CA 91731

Dear Ms. Reed:

I have enclosed my comments to the Air Quality Mangement Plan 1988 Draft EIR. If you have any questions, please feel free to contact me.

My concerns are with methodological issues. SRRI believes greater attention should be given to the impact of the AQMP on source reduction, particularly on those efforts by the EPA and the Department of Defense to affect waste minimization in solvent-intensive industrial and manufacturing applications.

SRRI a non-profit organization dedicated to the reduction of hazardous waste by source reduction. SRRI maintains a clearinghouse of information and a database of source reduction technologies, goods, and services. This information is provided to small business on a pro bono basis. SRRI seeks to advance the limits of practicable source reduction through applied research and technical assistance.

Sincerely,

Richard M. Holland, Project Director
(213)-398-2924

RMH:rh

Enclosure: Comments to AQM Plan 1988 - Draft EIR

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SRRI

SOURCE REDUCTION RESEARCH INSTITUTE

2716 Ocean Park Blvd., Suite 3025 Santa Monica, CA 90405-5284

Page 1 of 2

Comments on AQM Plan 1988 - Draft EIR with Regard
to the Evaluation of Economic Impacts and
Potential Upsets due to ROG Control Measures

The Source Reduction Research Institute (SRRI) believes
that the AQMP:

- o underestimates some potential economic impacts; and
- o underestimates some potential risks of upset.

The AQMP encourages practices that will ultimately be discouraged by RCRA and by State source reduction legislation aimed at reducing risk to human health and the environment from hazardous wastes. These practices include reformulating solvents, coatings, and refinishing compounds with exempt substances for the purpose of reducing ROG emissions. The result of this potential conflict is that:

- o the number of substances potentially available for economically practicable substitution may be much smaller than is estimated by the District; and
- o the incentive for hazardous waste generators to adopt some source reduction practices which minimize the use of exempt substances and thereby reduce risk to human health and the environment from some hazardous wastes will be lessened.

Waste minimization has been at the top of the EPA's waste management hierarchy since 1976. It has been a national policy since 1984 as a result of Congressional action during the RCRA reauthorization. Source reduction has emerged as the preferred EPA and OTA approach to hazardous waste generator waste minimization planning, the requirement for which was set forth in Sections 3002(b) and 3005(h) of HSWA (1984). Source reduction measures include chemical substitution, product substitution and modification, process and equipment modifications, and good housekeeping and chemical management practices. EPA's Office of Solid Waste will shortly publish draft policy guidance outlining how plans must be designed to reduce risks to human health and the environment, emphasizing that waste minimization consists only of source reduction and

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recycling techniques that reduce these risks. In addition, congressional activity (e.g. HR 2800 and RCRA reauthorization (Baucus)) includes language which would statutorily impose waste minimization programs. In light of these developments, the draft AQMP EIR should recognize that:

Please refer to the response for comment 1-85.

This issue was addressed in the December, 1988 EIR Subsection: Reformulation of Solvents and Coatings, pages 4-9-8 through 4-9-9.

40-1

40-2

Some risk of upset that reformulation of coatings and refinishing compounds using exempt substances may cause have been identified in the DEIR (September 1988 AQMP Draft Environmental Impact Report, Chapter 4, Environmental Impact and Mitigation Measures: Reformulation of Solvents and Coatings, p. 4-9-7). These are the potential adverse health effects of reformulating with methylene chloride and the adverse effect of ozone-depleting chlorofluorocarbons (CFCs) on stratospheric-ozone. With regard to stratospheric-ozone depletion, however, the DEIR erroneously states that the District prohibits "substitution of compounds that would lead to depletion of this layer". However, the AQMP fails to consider that regulation aimed at source reduction of specific hazardous-waste-generating substances would limit the available options for reformulating while discouraging reformulating with non-exempt substances including:

o substances that may become qualified by the Department of Defense for use under military specifications and will become important in aerospace applications as cleaning agents and paint strippers and as solvents in paints and coatings; and

o substances that the EPA is encouraging business owners and operators to consider for use in some cleaning applications, particularly in electronics manufacturing, as substitutes for some exempt substances.

SRRI recommends the DEIR consider the impact of the AQMP on waste-generating patterns and the potential for future conflict with source reduction initiatives.

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OCT 21 1988



SRRI

SOURCE REDUCTION RESEARCH INSTITUTE

2716 Ocean Park Blvd., Suite 3025 Santa Monica, CA 90405-5284

Oct. 4, 1988

Suzanne Reed, Special Projects Coordinator
South Coast Air Quality Mangement District
9150 Flair Drive
El Monte, CA 91731

Dear Ms. Reed:

This letter is the Addendum to my comments to the September 1988
Draft Air Quality Mangement Plan. If you have any questions,
please feel free to contact me.

Sincerely,

A handwritten signature in dark ink, appearing to read "RMH", is written below the word "Sincerely,".

Richard M. Holland, Project Director
(213)-398-2924

RMH:rh

Enclosure: Addendum to SRRI Comments to 1988 AQMP

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OCT 21 1988



SRRI

SOURCE REDUCTION RESEARCH INSTITUTE

2716 Ocean Park Blvd., Suite 3025 Santa Monica, CA 90405-5284

Addendum to SRRI Comments on 1988 Draft AQMD Plan
with Regard to Policy Issues

Some serious policy issues are not considered in Chapter 7 of the AQMP. SRRI believes attention should be given to the impact of ROG (particularly technology-based) regulation on the potential of source reduction to:

- o reduce exposure to hazardous wastes;
- o reduce exposure to toxics such as methylene chloride and TCE; and
- o protect stratospheric ozone from anthropogenic depletion.

An example of where technology-based regulation may hinder some efforts in source reduction is the following. The EPA and Department of Defense have suggested that several non-exempt solvents may be suitable, biodegradable, non-toxic, non-ozone-depleting replacements for ozone-depleting chlorofluorocarbons and toxic chlorinated substances in electronic photoresist stripping, degreasing, and defluxing. Rule 1164 ("Semiconductor Manufacturing") discourages use of these non-exempt solvents when they are applied in a shower-type spray in a solvent cleaning station (Section b1C of Rule 1164). Some equipment manufacturers have designed equipment around shower-type applications of the replacement solvents which they may have difficulty marketing as a result of Rule 1164.

SRRI recommends the AQMP consider the impacts on waste-generating patterns and the potential for future conflict with source reduction initiatives to be serious policy issues.

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25 October 1988

COLLEGE OF NATURAL AND
AGRICULTURAL SCIENCES
DEPARTMENT OF ENTOMOLOGY

RIVERSIDE, CALIFORNIA 92521

Suzanne Reed
Special Projects Coordinator
South Coast Air Quality Management District
9150 Flair Drive
El Monte CA 91731

Dear Ms Reed:

I find the *Draft 1988 Air Quality Management Plan* (the Plan) produced under the joint authority of the South Coast Air Quality Management District (SCAQMD) and The Southern California Association of Governments (SCAG) deficient and unacceptable for the following reasons:

1) The estimated reduction in ozone concentration by the year 2007, based on projected implementation of various existing and speculative technologies, barely meets EPA requirements, allows no margin for error with respect to projected population growth, and ignores likely significant climatological changes.

a) The Plan's estimate of future ozone levels does not include additional increases resulting from the incipient Greenhouse Effect and loss of high altitude ozone shield. Meteorologists predict increased penetration of ultra-violet (UV) radiation to the lower atmosphere resulting from loss of the ozone shield. We are further warned that this will lead to a significantly higher incidence of skin cancer; but this UV may also trigger significant increases in the low altitude ozone we breathe. The Plan also fails to consider that the Greenhouse Effect is likely to result in a warmer and drier climate locally; the resulting increased insolation, especially UV, will probably contribute to further ozone increases in the lower atmosphere. Although the Environmental Protection Agency's report on the Greenhouse Effect has not been fully released, some portions recently leaked to the press seem to confirm those fears.

b) The Plan's estimate of future air pollution is based on a conservative estimate of population growth in the South Coast Air Basin (15.8 million people by 2007). The Plan admits that if growth continues at the rate of the last five years our population will reach 18.3 million people by 2007. That is 15.8% higher and could result in a comparable percent increase in air pollution.

RESPONSES TO COMMENTS
UNIVERSITY OF CALIFORNIA, RIVERSIDE (10/25/88)
COMMENT LETTER #41

41-1

The population estimates used to forecast growth and future emissions are consistent with those provided by the Southern California Association of Governments in the Growth Management Plan.

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41-2 c) The plan to use highly speculative but low-polluting technologies, "which may not yet exist" to replace existing high-polluting ones (a major portion of Tier III objectives) is unrealistic. Although many technological changes have profoundly affected our society in the last twenty years, and we may expect more to come, many were the result of serendipitous discoveries; their advent could not have been predicted with regard to any specific timetable. Likewise, it is impossible to create a timetable for future development and implementation of technology which may become available in the future. Thus, back in the 1950's scientists predicted that we would have nuclear fusion energy power plants on line by now. They are not here yet; nor have we cured cancer or solved a number of other problems in spite of decades of diligent research.

41-3 2) The Plan offers no real alternatives to the three-tiered schedule of controls and no cost estimate is provided for tiers II and III.

a) The Plan admits that controls to be implemented in tiers II and III may not bring about the desired level of reduction in air pollutants. Furthermore, the concerns regarding increased UV radiation, already expressed in this letter, surely increase that uncertainty. If timely progress in reducing pollutants is not met, the Plan calls for implementation of contingency measures. These contingencies include further restrictions on or phase-out of some industries and their replacement with less-polluting industries having equivalent employment potential. Such industries are not identified but presumably such a change will entail a shift from 'blue collar' to 'white collar' workers with consequent hardship for those workers affected. Eventually, one might imagine a large-scale change in the work force from blue collar to primarily white collar workers. In order to meet that challenge there must also be changes in our educational system to qualify a larger percentage of people for such jobs, assuming that those people will be able to attain the higher educational level. Thus, such a replacement of industries in a short time span may be unrealistic.

41-4 b) The Plan estimates a cost of \$.65 per capita per day for implementation of Tier I. The far-reaching implementation of Tier II is likely to cost far more, although no estimate is given. Nor is any cost estimate given for implementation of Tier III measures; this is not too surprising, since much of the technology does not exist yet or is not cost-effective yet. However, if the cost of development and implementation of exotic new technologies in high-tech industries, such as aerospace, is any indication, then we may expect to pay very dearly for it. Can we really afford that? We may have to rely on more stringent growth control, industrial shut-downs, or other mundane measures in order to achieve air quality goals.

41-2 While Tier III technology may not be currently available, the research, development and use of such proposals is essential for attaining the Federal Air Quality Standards by the year 2010.

41-3 Providing cost figures for Tier II and Tier III measures would be highly speculative as Tier II measures are not commercially available at this time and Tier III measures have yet to be developed. As new technology is developed, any and all reasonable measures which would achieve the goal of meeting the Federal Air Quality Standards will be considered for implementation.

41-4 Please refer to the response for comment 41-3.

41-5

3) Growth management seems to offer the single most cost-effective and environmentally sound means of managing air pollution. However, the Plan's treatment of growth management is grossly inadequate. The discussion of growth management issues included in Draft Appendices IV-G and IV-I lacks meaningful detail in recommended guidelines, places inordinate emphasis on achieving a better jobs/housing ratio, and makes no provision to ensure local compliance with recommended actions.

41-6

a) Since air quality generally worsens with increasing distance from the coast within the South Coast Air Basin (the Basin), it makes sense to concentrate population growth near the coast. This is evident from the data provided in the Plan, yet no such policy is advocated; instead there are only predictions of large-scale population increases in those inland areas which suffer most from poor air quality. This is doubly unfortunate since traditionally jobs have been concentrated near the coast and projections indicate that this trend will change slowly; thus, large-scale commuting between coastal job sites and inland homes will be required far into the future. There is still time to turn around this ongoing trend toward inland migration and thereby greatly reduce the cost of future air pollution control measures. If the tide of migration can be stemmed then various contrived measures to rectify the jobs/housing ratio in both coastal and inland regions will be less important. Vast amounts could be saved in transportation costs alone! One cost-effective approach is a significant increase in gasoline taxes at the earliest possible date. A tax of \$0.50 - \$1.00 per gallon initially might spur a turn-around in demographic trends, while the revenue should be applied to creation of better rapid transit facilities, not more highways.

41-7

41-8

b) The plan to use various artificial incentives and disincentives to improve jobs/housing ratio in each region within the Basin has some merit but is also flawed. Flaws include the desire of some people to live at some distance from their job location, such as in the mountain communities, the fact that most families have two wage earners who may work at sites far apart, and the fact that housing costs in some areas, such as Orange County, are too high for many of the workers in those areas. Thus, it is essential to create more affordable housing in job-rich coastal areas. That could be accomplished easily through the existing building permit process implemented at local levels. Let us build our cities up rather than out, as has been done in cities such as Singapore. The alternative, urban sprawl with consequent loss of open space, is currently the bane of our existence and extremely bad for all aspects of the environment.

41-5

Your comment is noted and will be forwarded to the District Board for consideration. Growth management is expected to play a very important role in the overall achievement of the goal of the AQMP (attainment of the Federal Air Quality Standards). These measures will require the cooperation of local government jurisdictions. It is not the intent of the AQMP to challenge or usurp the authority of government at any level. For additional information concerning the implementation procedures of the growth management control measures by other jurisdictions, please refer to comment 2-10.

The SCAQMD will monitor and evaluate the progress of the growth management and Jobs/Housing balance goals. If by January 1, 1994, it is estimated, through the monitoring process, that the Jobs/Housing balance targets at the subregional level will not be met, the targets and measures to attain them could be reassessed. For areas where the Jobs/Housing balance has worsened, the SCAQMD could develop more stringent provisions. Potential actions could include State review of laws governing local general plans, and recommended changes to existing redevelopment laws.

41-6

Your comment is noted and will be forwarded to the District Board for consideration. The Jobs/Housing balance policy in the GMP emphasizes more housing growth in Orange County (coastal) and employment growth in the inland counties relative to trend projections (see GMA-4 Modified Jobs/Housing forecasts in the GMP).

41-7

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

41-8

Please refer to the response for comment 41-6.

Simply creating more jobs in house-rich but job-poor regions cannot solve the commute problem. Currently Orange County workers who cannot afford the expensive homes being built there are moving to inland areas to find affordable housing. If they eventually quit their jobs in Orange County to take new jobs nearer to their homes, they will leave vacancies to be filled by other workers who, likewise, cannot afford Orange County houses and must commute to affordable homes elsewhere.

c) The land-use issue is worthy of further comment with regard to preservation of natural environment, since the Plan does not adequately address such land use options. The Basin is characterized by a gradually drier climate with increasing distance from the coast. That, coupled with a complex topography and diverse soil types, has naturally created a diversity of habitats which primarily include chaparral, oak-grass woodland, coastal sage scrub, riparian, and coastal and inland dunes; many other specialized communities of lesser extent also occur. The largest concentration of threatened and endemic plants in California, for example, occurs in the San Bernardino Mountains, which border the Basin and are under great developmental pressure. Remaining open space in the Basin is extremely limited and increasingly fragmented. Many habitats are already reduced to minor remnants of their former extent. Some, such as the remnant dunes in Colton, are likely to disappear soon along with their unique plant and animal communities; these were once contiguous with dunes in the Ontario-Mira Loma area which are already gone. The Santa Ana River, from Prado Dam to its headwaters in the San Bernardino Mountains supplies the last sizable area of riparian habitat in the Basin. Concrete lines its channel in much of Orange County.

The largest region of contiguous lowland undeveloped and agricultural land is in western Riverside County, which is also the last stronghold of several species of plants and animals which once occurred throughout the Basin. Some of these species, such as the Stephen's kangaroo rat, are already included on the federal and state endangered species lists. Others, such as Wright's checkerspot (*Euphydryas editha wrighti*), a relative of the endangered Bay Area checkerspot butterfly, are sure to be on those lists in the future. Even more species may never be known to science before habitat loss causes their extinction. As an example of the latter, a new species of fairy shrimp, dubbed the Riverside Shrimp (a species of *Streptocephalus*), came to light just this year as developers prepared to obliterate its restricted vernal pool habitat in southwestern Riverside County. Thus, if projected growth in this area comes about we shall surely lose a significant portion of native species. It is

The land use impacts that would result from increased population densities due to growth management control measures include changes in building height, lot coverage and setbacks, density changes, circulation patterns, and parking.

GMP policy states: Preserve open space areas identified in local, state, and federal plans, and those in SCAG's Conservation and Open Space Plan. Preserve, wherever possible, prime agricultural land and open-space areas separating communities. Protect such vital natural resources as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique or endangered plants and animals.

As noted on page 4-7-4 of the DEIR, any modifications to the natural environment with respect to land use would be regulated by local land use planning. Urbanized areas of Los Angeles and Orange Counties would be most likely to experience increased densities as 5 percent of the future housing growth shifts to job-rich areas.

time to set aside a significant portion of remaining undisturbed land in the Basin, incorporating a diversity of contiguous habitats for wildlife preservation.

d) There is no current program to locate threatened species within the Basin and the Environmental Impact Report (EIR) process is wholly inadequate for that purpose. Thus, the original EIR submitted by the developer in the case of the Riverside Shrimp failed to note its existence; nor did it list many other organisms which comprise the community inhabiting that unique vernal pool habitat. Unfortunately, this situation is more the rule than the exception. In fact a great many species of insects and other invertebrate animals are rare in the Basin and little known to scientists, let alone the public. Many such organisms are specialized for survival in desert and semidesert environments. Some can remain dormant for years, waiting for appropriate rain or other special climatic conditions, before appearing to complete their life cycles. This is apparently true of Wright's checkerspot butterfly and of some lycaenid butterflies in the genus *Euphilotes*, which includes the endangered El Segundo and Smith's blues. This fact, alone, makes the EIR process subject to error, since individual EIRs are generally produced in a relatively short time span. This situation could be improved by instituting a comprehensive survey of the biota in at least representative portions of all remaining natural habitat likely to become developed in the future. Thus, a data bank for the remaining native species could serve as a reference for future EIR surveys.

A more serious flaw in the EIR process exists in areas such as Riverside County, where developers are allowed to hire their own EIR consultants. Some professional EIR consultants in Riverside County have informed me that their reports, prepared for local land developers, were 'shelved', rather than submitted, and other consultants subsequently hired to produce EIRs more favorable to the developers' plans. The former consultants now prefer to work in other counties where local government selects the EIR consultants and directly receives their EIRs; in such cases no direct contact between consultants and developers is allowed, thus preventing a conflict of interest. It is precisely for reasons such as this, and the unwillingness of local politicians to correct such flaws, that Riverside County residents are currently attempting to adopt, by initiative ballot measure, a comprehensive land use and growth management plan. If that initiative is approved it will immediately adopt some of the growth management provisions recommended in the Plan. The passage of this or any other growth management plan is uncertain at this time due to deliberate obstructionism on the part of some elected local officials, such as Norton Youglove (SCAQMD Chairman) and Kay Cenicerros (SCAG member), who have staunchly opposed growth management and are backed

41-10

A discussion of the impacts of the Plan on ecosystems within the natural environment can be found in the responses to comments 7-21 and 7-22.

by a powerful coalition of development interests. Since there is no regional authority to enforce the growth management provisions of the Plan, and given the historical trend of nearly all local governments within the Basin to support only local (generally progrowth) interests, the adoption of growth management provisions recommended in the Plan seems doubtful. A regional growth management authority run by truly growth management-oriented people, not by professional politicians is required. It is unlikely that such an authority can be generated through the existing power structure.

41-11

In summary the Plan has major flaws due to failure to consider future climatological changes, failure to seriously consider alternative growth management policies, failure to provide detailed guidelines for local implementation of growth management requirements, and lack of authority to force meaningful implementation of such measures by recalcitrant local governments.

Sincerely,



Greg Ballmer

41-11

The Plan incorporates projected future population growth and meteorological conditions in its assumptions regarding the potential for air quality improvements in the next 20 years. Please refer to response to comment 41-5 for a discussion of the implementation procedures for the growth management control measures.

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RESPONSE TO THE DRAFT 1988 AIR QUALITY MANAGEMENT PLAN DATED
SEPTEMBER 1988

RESPONSES TO COMMENTS
WESTERN LIQUID GAS ASSOCIATION (9/88)
COMMENT LETTER #42

STATEMENT BY THE WESTERN LIQUID GAS ASSOCIATION

Long-term non-attainment of ambient air quality standards is a serious problem for California that needs increased attention and innovative solutions. With the large scale role that motor vehicles play in the degradation of California's air quality, it is essential that all possible avenues be examined to determine the potential to clean the air.

The South Coast Air Quality Management District draft 1988 Air Quality Management Plan and related documents, including the California Air Resources Board draft appendix IV-F (California's Post-1987 Motor Vehicle Plan For Continued Progress Toward Attainment of the National Ambient Air Quality Standards For Ozone and Carbon Monoxide-1988 update), have failed to address the potential of one of the most promising of alternative fuels--Propane.

42-1

Your comment is noted. An expanded discussion of propane can be found on pages 4-14-22 to 4-14-24.

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The AQMP in Chapter 4, Control Strategy, states on page 4-1 that "All control methods potentially available for implementation by 2007 were identified and, to the extent possible, quantified." The plan further states on this page that "Tier I control measures are defined as those that can be adopted in the next five years with currently available technological applications and management practices." Propane is a currently available control method; is quantifiable, should be implemented now as a Tier I control measure and yet is clearly not covered in sufficient detail in the Plan.

42-2

On page G-7 the plan states "Alternate clean fuels could include methanol, (CNG), propane..." and on page G-17 propane is mentioned in the "others" category with the statement that "The Department of Energy estimates almost 4 million liquified petroleum gas (LPG) vehicles [are] used worldwide" which correctly identifies LPG (propane) as the most widely used alternative fuel in the world. However, there is no mention of propane in the "emissions reduction", "cost effectiveness", or other areas.

42-2 A brief discussion of emissions reduction and LPG costs can be found on pages 2-14-23 and 2-14-24.

42-3 Since neither propane- nor methanol-fueled vehicles are currently commercially available for widespread distribution, it is difficult to determine their cost effectiveness at this time.

42-3

In section 3b on page 22 propane is listed as a clean burning alternative fuel, however, the following sentence stating that "flexible-fueled vehicles, which are capable of operating on gasoline or methanol, are considered to be the

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42-3
Cont. | most likely alternative in the South Coast Air Basin" is
totally invalid and has no substantiation. Flexible-fueled
vehicles are in the prototype stage for light duty
automobiles only and are capable of addressing less than 50%
of the mobile source emission problem no sooner than the mid
1990's. Propane vehicles are available now to address over
90% of the mobile source problem with equal or lower
emissions than methanol, lower cost, and a readily available
fuel supply.

42-4 | As early as 1983, the California Air Resources Board
identified the ozone formation potential of propane fueled,
standard emission control vehicles to be at least 47% lower
than gasoline and CO levels were 73% lower than gasoline in
test vehicles, despite propane carburetion calibrations that
were not optimized for minimum emissions.

42-5 | It is inappropriate for the AQMP to delay for a
possible future benefit from methanol, when propane has been
available for years to help address this serious problem and
received little attention. It is imperative that the SCAQMD,
CARB, and SCAG more thoroughly investigate and move ahead
with all available alternatives to improve air quality as
soon as possible, especially propane.

42-4 | Your comment is noted and will be forwarded to the District Board
for consideration in making its decision on the AQMP.

42-5 | The District does not intend to delay the AQMP to evaluate the
potential of methanol to reduce mobile source emissions. The
District is going forward with its clean fuels program (Regulation XVI
and Rule 1601), which will include all fuels demonstrated to be
environmentally safe and effective in reducing criteria pollutant
emissions. This program includes methanol as well as CNG, LPG,
hydrogen, electricity, etc.

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Mayor
HARRY LOU SWAIN
Councilmembers
TOM O. ATAINS
THOMAS D. BREAZEL
JERRICK FROENLE
KENNETH G. GILLANDERS
City Manager
PAUL E. KUSKI



9701 LAS TUNAS DRIVE P. O. BOX 668 - TEMPLE CITY, CA 91780-0668 - (818) 265-2171

September 23, 1988

Mr. James M. Lents, Ph. D.
Executive Officer
SCAQMD
9150 Flair Drive
El Monte, CA 91731

Dear Dr. Lents:

The City Council, at their regular meeting held on September 6, 1988, received your Formal Request for Comments on Policy Proposals for the 1988 Air Quality Management Plan. The City Council voiced strong criticism toward many of the policies and strategies contained in the proposed plan.

43-1 They are opposed to the conversion of vehicles to methanol based upon the low efficiency of methanol and the resultant increase in fuel costs to the motoring public. In addition, it was noted that a large contributor of Nitrogen Dioxide is diesel fuel and yet there has been no attempt to regulate diesel vehicles and trucks.

43-2 They also opposed regulating paints, coatings and other substances when there are no adequate substitutes. It is difficult to justify replacing a product with that of a substantially lesser quality and one which does not meet current needs or standards.

43-3 The Council opposes any plan that imposes regulatory measures which create economic hardships that result in business closures and reduction of employment opportunities without financial remuneration to the affected parties.

43-4 The Council supports the policy of improving air quality in our region based on known technologies and reasonable management practices. The Council is concerned with the Constitutional issues whereby a body of regulatory makers who are not elected impose regulations that are absolute and without regard for financial implications. Although the District is certainly working to meet the mandate passed down from the Federal and State

**RESPONSES TO COMMENTS
CITY OF TEMPLE CITY (9/23/88)
COMMENT LETTER #43**

43-1 An extensive discussion of methanol fuel can be found in Attachment 6 -- Methanol.

43-2 The commentor provides no evidence that there are no coating substitutes currently available, or that none will be available within the time frame of implementing the AQMP. District staff have contacted and have had extensive discussions with the major coatings manufacturers in America (BASF, DuPont, PPG, and Sherwin Williams). At least two of these manufacturers currently have acceptable low-ROG coating products. These same manufacturers are already researching products with even lower ROG contents that will be available within the next 2 to 4 years.

43-3 Without knowing which businesses the commentor is specifically referring to, it is difficult to evaluate this comment. Additional information concerning the economic impacts of implementing the AQMP can be found in Appendix F -- Socioeconomic Impacts of the Air Quality Management District.

43-4 Please refer to the responses for comments 2-10, 2-20, and 2-30


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SCAQMD
September 23, 1988
Page 2

legislature, they are encroaching upon the rights of individuals and seriously impacting the manner in which we live our daily lives.

The official position of Temple City is to oppose the plan in its present form. Thank you for the opportunity to make our comments.

Sincerely,



Mary Lou Swain
MAYOR

MLS/vl

CC: U.S. Senator Alan Cranston
U.S. Senator Pete Wilson
Congressman Carlos Moorhead
Governor George Deukmejian
State Senator Newton Russell
Assemblyman Richard Mountjoy
Supervisor Pete Schabarum

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MUNGER, TOLLES & OLSON
A LAW PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

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RESPONSES TO COMMENTS
MUNGER, TOLLES AND OLSON (10/21/88)
COMMENT LETTER #44

FREDERICK B. WARDEN JR.
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683-9253

WRITERS' DIRECT LINE

October 21, 1988

LEROY TOLLES
F. JAMES O. LEMENSHADE
MISER B. TART
C. DOUGLAS BRANWINKLE
ROBERT A. JOHNSON
ALAN F. FRIEDMAN
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MELVIN H. WALDY
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DANIEL P. GARCIA
LAW D. KERNIN
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CHARLES C. SIEGAL
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TERRY L. GUNDEL
GREGORY H. MAUSS
GREGORY H. GORDAN
TERRY H. KRISTOVICH
WOLFE B. KUNG
JOHN W. SPIEGEL

PROFESSIONAL CORPORATION

Ms. Jackie Dix
District Board
South Coast Air Quality Management District
9150 Flair Drive
El Monte, California 91731

Dear Ms. Dix:

This letter is being submitted on behalf of a newly formed organization called the Minority Coalition for Responsible Growth ("The Coalition"). The Coalition is comprised of Black, Hispanic, and Asian professionals in the private and public sector who are concerned about the future of the Los Angeles area. Several members of the Coalition had or still retain responsibilities in local government and thus we are not strangers to the regulatory process. The purpose of this letter is to express our concerns with respect to several aspects of the proposed Air Quality plan which is now being hurried through the public hearing process.

I
Overview

Preliminarily, we wish to state that the Coalition concurs in the goal of attaining the Clean Air Act standards in the most expeditious manner possible, and recognizes the urgency and magnitude of the task the District has assumed in developing a plan to bring the region into attainment. This task will require cooperation among all sectors, public, private, government, as well as individuals.

(Responses to Comments start on a following page.)

000468

The Coalition supports a number of measures to improve air quality, including motor vehicle inspection and maintenance, ridesharing, transportation systems management measures, equitable imposition of stringent controls on stationary and mobile sources, as well as vigorous enforcement of emission control rules. We are obligated, however, to point out weaknesses in the plan.

44-1 [The basic strategy for improving air quality must be one which reduces health risks from air pollution in a rapid fashion but without destroying the complex economic health and social fabric of the region. Any plan for improving air quality must accurately describe its full costs to residents and businesses in the basin so that the plan can be balanced with other societal goals. We believe it is fundamentally wrong that the single purpose of air quality improvement be made so sacrosanct as to ignore all other needs in the region. The proposed plan suggests, however, that attainment of air quality standards is the primary goal of this region and commits billions of dollars of scarce public and private sector resources which will, in part, be needed to achieve other social objectives such as the reduction of crime.

II
Plan Defects

The Coalition believes that the proposed plan is deficient in the following respects:

- 44-2 [(1) Too much key information on costs and socioeconomic impact has not been developed, and available alternatives have not been made available for evaluation.
- 44-3 [(2) EPA enforceability of the plan adopted as presented could commit us to implementation of an impossible or ill-advised course of action based on incomplete information.
- 44-4 [(3) A mechanism must be developed that will allow a regional ranking and allocation of resources for the attainment of all goals.
- 44-5 [(4) The extent to which competing environmental concerns will be balanced is far from clear. For example, does AQMD really wish to prohibit landfills in the basin, and if so, what are the cost implications to consumers?

44-1

The commentor provides no data or evidence that implementing the AQMP will destroy "the complex economic health and social fabric of the region." In fact, to the extent feasible, and given the general level of analysis required of this document (please refer to the Executive Summary and to the response for comment 2-12) the District has analyzed the socioeconomic impacts of the AQMP to residents of the Basin (see Appendix F - Socioeconomic Impacts of the Air Quality Management District). District analysis does not forecast the same scenario predicted by the commentor. In fact, the analysis indicate that the cumulative employment impact of the AQMP will be positive (please refer to the response for comment G-157).

44-2

Please refer to the response for comment 44-1.

44-3

Your opinion is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

44-4

Please refer to the response for comment 2-43.

44-5

The AQMD projects transport of all biodegradable solid wastes out of the Basin. Also, please refer to the response for comment 1-89.

000469

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44-6 (5) We have been advised that air quality monitoring shows that the basin is in attainment for all but about 6% of the hours in the year. The plan, however, would require the expenditure of billions of dollars to meet the standards every hour every day of the year. Yet, even Tier III measures, which are also unknown, will not achieve such compliance. We believe the plan would be more realistic and certainly less destructive to the region's economy if time/place implementation of some controls were explored so as to concentrate the most drastic strategies for those portions of the year with the worst smog episodes.

As part of a comprehensive regional strategy to improve air quality and mobility, the Coalition supports a variety of transportation systems management measures such as ridesharing, parking management measures such as ridesharing, parking management, flex time and the appropriate limitation of truck traffic. The Plan should be more specific in suggesting strategies which will reduce the amount of truck traffic during peak hours. We also note that cost and emission projection figures for transportation and motor vehicle measures are generally lacking, making an educated judgment of their effectiveness and feasibility difficult.

44-7 Portions of the proposed plan allude to \$42 Billion in transit improvements and unspecified land use controls. To our knowledge the AQMD has little or no expertise in the complex issues relative to the siting, modalities and funding of mass transit projects, for example. By contrast, other agencies such as RTD, LACTC, UMTA, Cal Trans and various city/county agencies have extensive transit experience and presently occupy this field. Thus, we wonder what role AQMD intends to play in the transportation area. Similar observations are even more true in land use. While the home rule concept may not be perfect local jurisdictions have been absorbed if not preoccupied with the various conflicting interests when evaluating development patterns in their own jurisdictions. We have great concern that the AQMD, an agency with no prior experience, would suddenly intervene in the difficult and complex matrix of land use regulation in pursuit of a single objective.

III Representativeness

We are also compelled to point out that the composition of the District's Board does not provide a minority voice -- a fact we find very disturbing in light of the serious potential

44-6

If an air pollution control District exceeds the National Ambient Air Quality Standard (NAAQS) for any of the six criteria pollutants, even for only one day, it is out of compliance for that pollutant. Currently, the District is in compliance with the SO₂ and lead standards only. The EPA requires that those districts not in compliance with any of the NAAQS demonstrate compliance in their AQMP. Pursuant to the existing Federal Clean Air Act, the AQMP may not use time/place strategies to demonstrate compliance. However, additional research on these strategies will be considered for the 1990 AQMP. All of the suggested control measures are necessary if the District is to demonstrate compliance with the ozone standard.

44-7

The transportation measures included in the Regional Mobility Plan as well as the AQMP, will require cooperation from numerous transportation and local government agencies. For more information regarding implementation procedures for transportation measures, please refer to the response for comment 2-10.

000470

South Coast Air Quality Management

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Page 4

consequences of the draft plan. Of the nine current Board members none are minority. While there are two representatives each from Orange, Riverside and San Bernardino Counties only one is from Los Angeles County and Supervisor Antonovich represents a district which is predominantly white. We thus find it astonishing that not one person on this board reflects the views, values and concerns of the more than 3.5 million minorities who live and work in Los Angeles County. Our fears about this absolute lack of representation are heightened by remarks attributed to Board member Schiller who, we are informed, at a September 9, 1988, hearing suggested that birth control be included as an element of the AQMD Plan. Whether intentionally inflammatory or not, such statements suggest a rather profound insensitivity to the interests and the jobs of the enormous and largely blue collar minority community.

IV

Conclusion

We are extremely concerned about the great potential for disproportionate economic impacts which could be caused by the proposed regulatory measures. According to the State of California Employment Development Department the 1980 census showed a striking difference in the ethnic composition of various components of the work force. For example, under the Category Precision Production Craft & Repair (which includes mechanics and electrical workers) there were 449,793 jobs, of which 55% were held by whites, 30% by Hispanics, 8% Black, 4 1/2 % Asian. Similarly, there were 662,889 jobs in the Operators, Fabricators & Laborers category of whom 34.7% were white and 65.3% minority (49% Hispanic, 11% Black, 4 1/2 % Asian).

By contrast the service and professional jobs have distinctly different racial characteristics:

<u>Category</u>	<u>Jobs</u>	<u>Ethnic Composition</u>
Managerial & Professional Specialty	881,687	White, 75.15%; minority, 24.85%
Professional	462,509	White, 75%; minority 25%

Thus, minorities are heavily employed in the manufacturing areas which are the subject of the most severe regulations in the draft plan.

125000

MUNGER TOLLES & OLSON

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Our concern is heightened by the reported remarks of AQMD Executive Director Lents who has declared that some industries (when will we be told which ones?) will have to leave the Los Angeles basin. When we then look to see how carefully the AQMD has studied the impacts on the job base of the minority community which will be affected by the regulations we find only the comment at page 1-3 of the draft EIR prepared by SCAG:

"Economic and Socioeconomic Impacts

Implementation of the AQMD will hasten regional economic trends; affecting individuals, business and industries. Shifts in the types of businesses and industries located in the Basin may also be made more rapidly. Furthermore, the lifestyles of Basin residents are expected to evolve rapidly to meet the challenges of the 21st Century."

This paragraph is insufficient to the point of being arrogant. We believe that these impacts must be fully analyzed and disclosed to the public before the draft plan is adopted. Without such analysis we believe the EIR will be fatally defective and that the proposed rules may have a major obstacle in overcoming due process and equal protection constitutional challenges. We urge you to consider this concern very carefully before engaging in frenzied regulatory enactments no matter how apparently justified the motivation.

Sincerely,

RENEE L. CAMPBELL
Kane, Balmer & Berkman

RAE WISHOM
Assistant to the Administrator
Community Redevelopment Agency

DENNIS NISHIKAWA
Commissioner, Board of Public Works
City of Los Angeles

DANIEL P. GARCIA
Munger, Tolles & Olson

JAMES BROWDER
Assistant Vice President
Civic and Community Relations
University of Southern
California

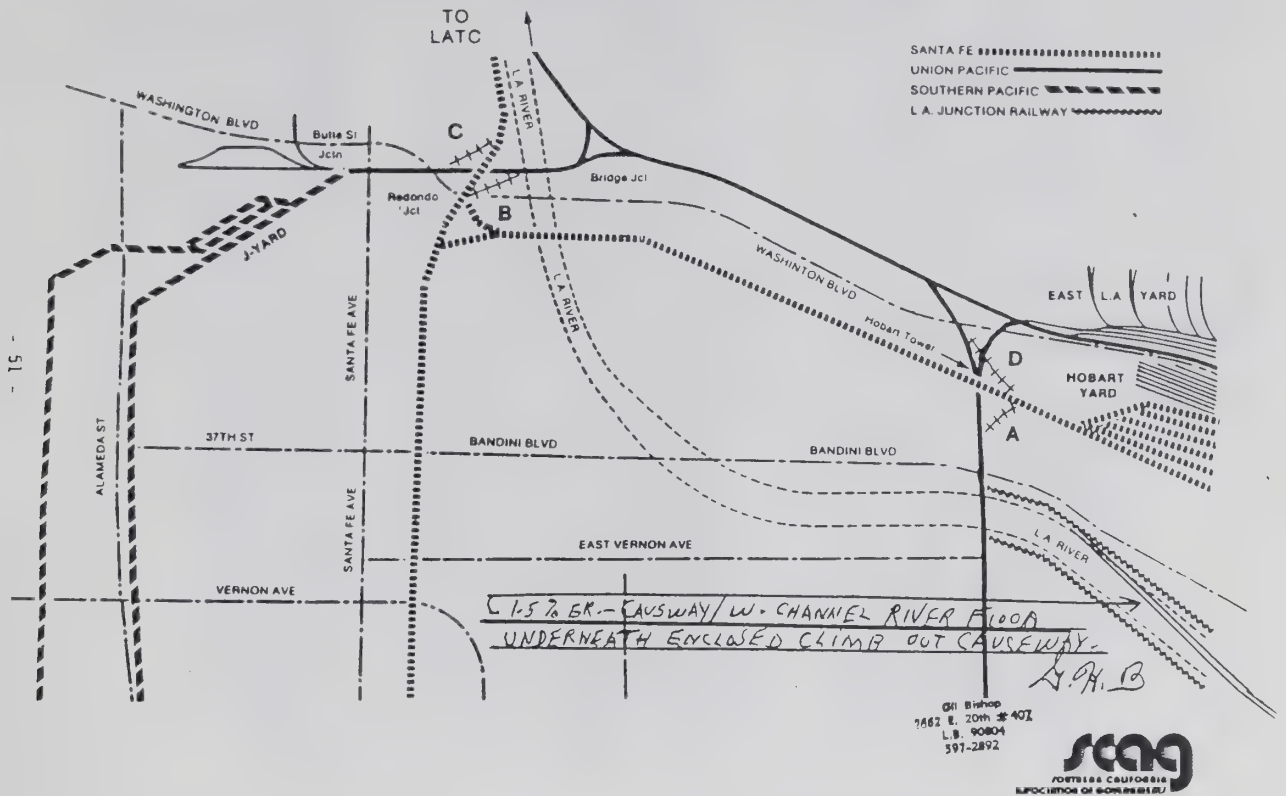
44-8

The level of analysis provided by the District in terms of socioeconomic and environmental impacts is appropriate for a general document of this type. Please refer to the responses for comment 44-1 and G-157.

000472

Figure 5.1

J. YARD / REDONDO / HOBART AREA



000473



PRESS-TELL CHAM/MONDAY, MAY 9, 1988

Long, double-stack trains are a technological advance in cargo handling, but a headache for traffic-weary North Long Beach residents

Traffic snarl cramps port growth

LA-HARBOR YARD - EXIT
SCAE "PIS-5-1"
Wong 1/2-

"L.A. RIVER - (FLOOD CONTROL CHANNEL)"

Docks bulging with cargo the promise of riches, the port of Long Beach has embarked on a three-decade, multimillion-dollar expansion.

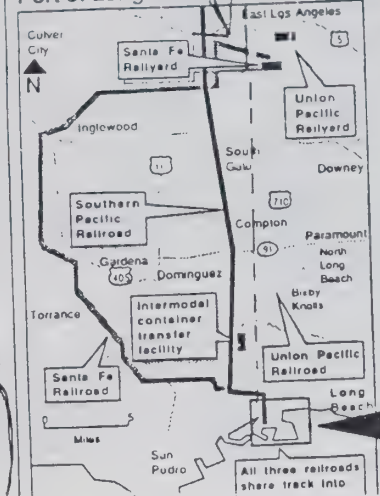
Long Beach would be proud to add the ranks of the nation's leading ports, and the port could emerge as a center for national trade. But a relatively small, \$2 million dockside railyard project — one of the latest advances in cargo handling — underscores a shipping bottleneck.

The port can grow seaward, extending farther into Long Beach Harbor with new landfills and piers. But landward traffic congestion threatens to strangle the whole expansion plan.

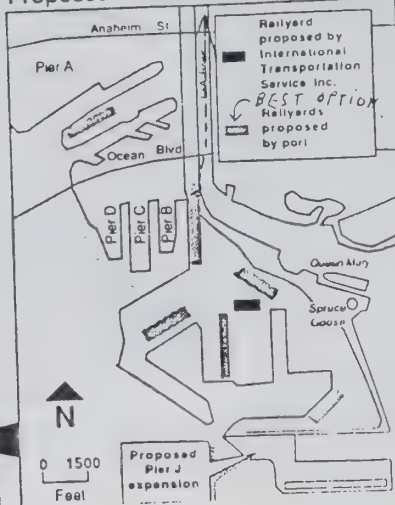
As the port grows, so do the thousands of big rigs on South Freeway — terrifying motorists and pock-marking the surface as they haul their loads between the docks and

Hauling freight

Port of Long Beach rail lines



Proposed dockside railyards



neighborhoods in order to do more business is simply not acceptable.

The current dockside railyard proposal provides a vivid case study of what may be ahead on a much larger scale.

It began in October 1983 when International Transportation Service Inc. applied to the Harbor Commission, the port's governing board, to approve an expansion of its Pier J railyard.

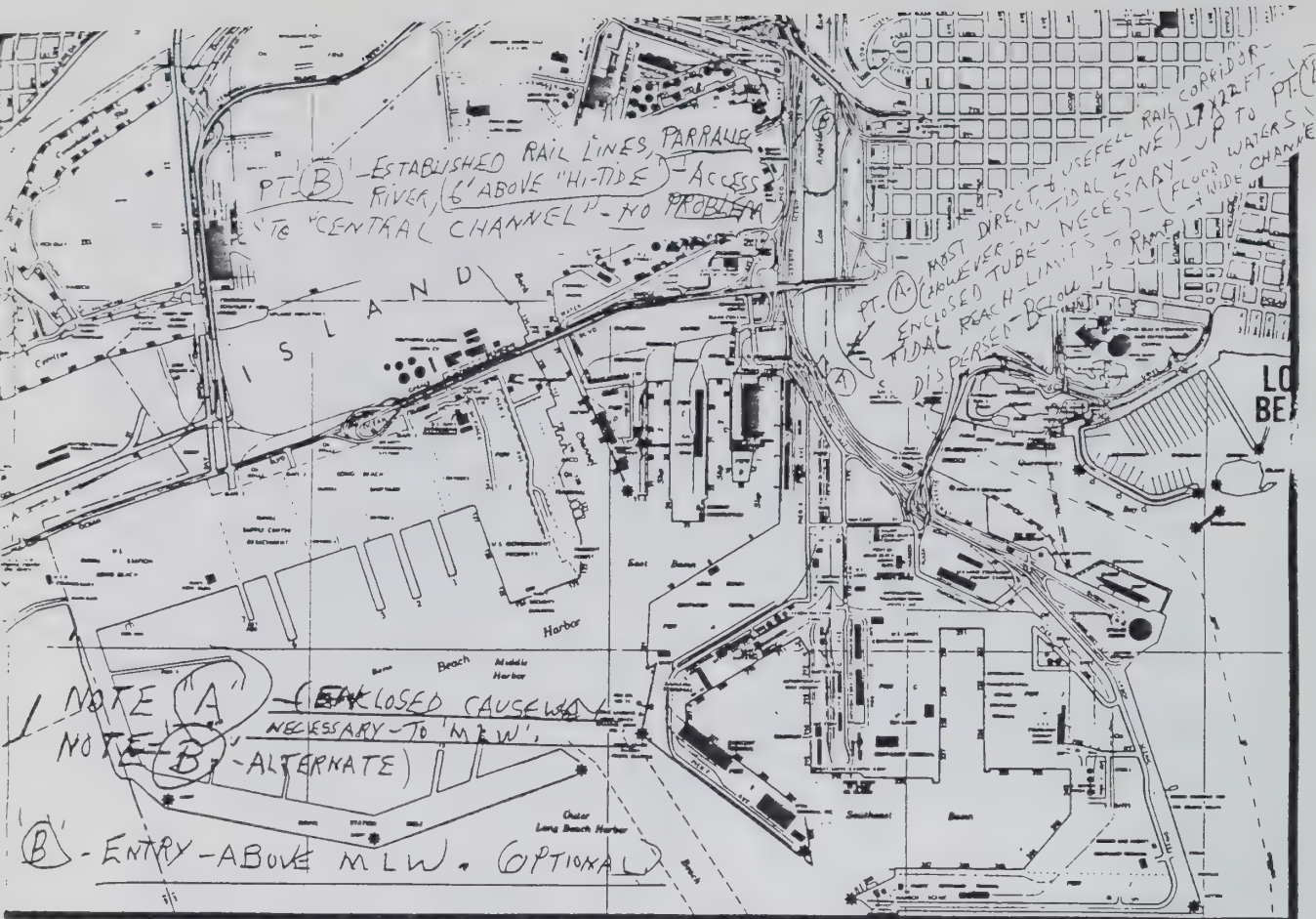
A subsidiary of the Japanese-owned Line shipping company, ITS operates a 100-acre cargo handling terminal. But ITS' trackage, across the street from the Queen Mary/Spruce Goose complex, is inefficiently split into three segments.

ITS wants to lay 6,000 feet of track in a single location, which would allow it to expand from two trains a week to as many as seven. Those trains could reduce the need for as many as 1,200 trucks a week, and cut some air pollutants by two-thirds.

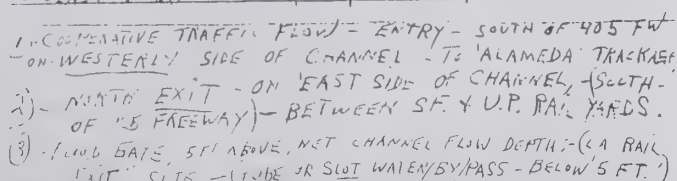
Concomitantly, opposition to increased train traffic has forced ITS to repeatedly delay its plans. Nonetheless, the port

[illegible]

25.2 E 20m = 4m
LB 90804
587-282



LONE BEACH HARBOR - L.A. RIVER RAIL COMPLEX



MONTHS:-	4	7	10
1 JAN.	APRIL	JULY	OCTOBER
2 FEB.	MAY	AUG.	NOV.
3 MAR.	JUNE	SEPT.	DEC.

NOTE: 1. LOSS OF CENTRAL HORN - WILL INCREASE 1" - 2" - 3" - 4" - 5" - 6" - 7" - 8" - 9" - 10" - 11" - 12" - 13" - 14" - 15" - 16" - 17" - 18" - 19" - 20" - 21" - 22" - 23" - 24" - 25" - 26" - 27" - 28" - 29" - 30" - 31" - 32" - 33" - 34" - 35" - 36" - 37" - 38" - 39" - 40" - 41" - 42" - 43" - 44" - 45" - 46" - 47" - 48" - 49" - 50" - 51" - 52" - 53" - 54" - 55" - 56" - 57" - 58" - 59" - 60" - 61" - 62" - 63" - 64" - 65" - 66" - 67" - 68" - 69" - 70" - 71" - 72" - 73" - 74" - 75" - 76" - 77" - 78" - 79" - 80" - 81" - 82" - 83" - 84" - 85" - 86" - 87" - 88" - 89" - 90" - 91" - 92" - 93" - 94" - 95" - 96" - 97" - 98" - 99" - 100" - 101" - 102" - 103" - 104" - 105" - 106" - 107" - 108" - 109" - 110" - 111" - 112" - 113" - 114" - 115" - 116" - 117" - 118" - 119" - 120" - 121" - 122" - 123" - 124" - 125" - 126" - 127" - 128" - 129" - 130" - 131" - 132" - 133" - 134" - 135" - 136" - 137" - 138" - 139" - 140" - 141" - 142" - 143" - 144" - 145" - 146" - 147" - 148" - 149" - 150" - 151" - 152" - 153" - 154" - 155" - 156" - 157" - 158" - 159" - 160" - 161" - 162" - 163" - 164" - 165" - 166" - 167" - 168" - 169" - 170" - 171" - 172" - 173" - 174" - 175" - 176" - 177" - 178" - 179" - 180" - 181" - 182" - 183" - 184" - 185" - 186" - 187" - 188" - 189" - 190" - 191" - 192" - 193" - 194" - 195" - 196" - 197" - 198" - 199" - 200" - 201" - 202" - 203" - 204" - 205" - 206" - 207" - 208" - 209" - 210" - 211" - 212" - 213" - 214" - 215" - 216" - 217" - 218" - 219" - 220" - 221" - 222" - 223" - 224" - 225" - 226" - 227" - 228" - 229" - 230" - 231" - 232" - 233" - 234" - 235" - 236" - 237" - 238" - 239" - 240" - 241" - 242" - 243" - 244" - 245" - 246" - 247" - 248" - 249" - 250" - 251" - 252" - 253" - 254" - 255" - 256" - 257" - 258" - 259" - 260" - 261" - 262" - 263" - 264" - 265" - 266" - 267" - 268" - 269" - 270" - 271" - 272" - 273" - 274" - 275" - 276" - 277" - 278" - 279" - 280" - 281" - 282" - 283" - 284" - 285" - 286" - 287" - 288" - 289" - 290" - 291" - 292" - 293" - 294" - 295" - 296" - 297" - 298" - 299" - 300" - 301" - 302" - 303" - 304" - 305" - 306" - 307" - 308" - 309" - 310" - 311" - 312" - 313" - 314" - 315" - 316" - 317" - 318" - 319" - 320" - 321" - 322" - 323" - 324" - 325" - 326" - 327" - 328" - 329" - 330" - 331" - 332" - 333" - 334" - 335" - 336" - 337" - 338" - 339" - 340" - 341" - 342" - 343" - 344" - 345" - 346" - 347" - 348" - 349" - 350" - 351" - 352" - 353" - 354" - 355" - 356" - 357" - 358" - 359" - 360" - 361" - 362" - 363" - 364" - 365" - 366" - 367" - 368" - 369" - 370" - 371" - 372" - 373" - 374" - 375" - 376" - 377" - 378" - 379" - 380" - 381" - 382" - 383" - 384" - 385" - 386" - 387" - 388" - 389" - 390" - 391" - 392" - 393" - 394" - 395" - 396" - 397" - 398" - 399" - 400" - 401" - 402" - 403" - 404" - 405" - 406" - 407" - 408" - 409" - 410" - 411" - 412" - 413" - 414" - 415" - 416" - 417" - 418" - 419" - 420" - 421" - 422" - 423" - 424" - 425" - 426" - 427" - 428" - 429" - 430" - 431" - 432" - 433" - 434" - 435" - 436" - 437" - 438" - 439" - 440" - 441" - 442" - 443" - 444" - 445" - 446" - 447" - 448" - 449" - 450" - 451" - 452" - 453" - 454" - 455" - 456" - 457" - 458" - 459" - 460" - 461" - 462" - 463" - 464" - 465" - 466" - 467" - 468" - 469" - 470" - 471" - 472" - 473" - 474" - 475" - 476" - 477" - 478" - 479" - 480" - 481" - 482" - 483" - 484" - 485" - 486" - 487" - 488" - 489" - 490" - 491" - 492" - 493" - 494" - 495" - 496" - 497" - 498" - 499" - 500" - 501" - 502" - 503" - 504" - 505" - 506" - 507" - 508" - 509" - 510" - 511" - 512" - 513" - 514" - 515" - 516" - 517" - 518" - 519" - 520" - 521" - 522" - 523" - 524" - 525" - 526" - 527" - 528" - 529" - 530" - 531" - 532" - 533" - 534" - 535" - 536" - 537" - 538" - 539" - 540" - 541" - 542" - 543" - 544" - 545" - 546" - 547" - 548" - 549" - 550" - 551" - 552" - 553" - 554" - 555" - 556" - 557" - 558" - 559" - 560" - 561" - 562" - 563" - 564" - 565" - 566" - 567" - 568" - 569" - 570" - 571" - 572" - 573" - 574" - 575" - 576" - 577" - 578" - 579" - 580" - 581" - 582" - 583" - 584" - 585" - 586" - 587" - 588" - 589" - 590" - 591" - 592" - 593" - 594" - 595" - 596" - 597" - 598" - 599" - 600" - 601" - 602" - 603" - 604" - 605" - 606" - 607" - 608" - 609" - 610" - 611" - 612" - 613" - 614" - 615" - 616" - 617" - 618" - 619" - 620" - 621" - 622" - 623" - 624" - 625" - 626" - 627" - 628" - 629" - 630" - 631" - 632" - 633" - 634" - 635" - 636" - 637" - 638" - 639" - 640" - 641" - 642" - 643" - 644" - 645" - 646" - 647" - 648" - 649" - 650" - 651" - 652" - 653" - 654" - 655" - 656" - 657" - 658" - 659" - 660" - 661" - 662" - 663" - 664" - 665" - 666" - 667" - 668" - 6

"NOTE" - SATALITE-WETHER DATA; ? - (1989) - QUITE SUFFICIENT TO "ADD TO" "ILL-PAIR" PASSAGE USE. !! - (C) "USE" - "MONITORED" - 8/CONTROLLED BY "LA. COUNTY" - FLOOD CONTROL DISTRICT - 8/UPON CLOSE-COORDINATION WITH - "WESTERN DIV." - OF THE U.S. "HYDROLOGICAL" SERVICE. !! (NOTE, - PAIR/DEB - "SPECIFIC DESIGN" - ("UPPER" - 3" - (THREE INCH) -) - (OF RAIL/UP ON A CEMENT/REINFORCED) - BED, - - ("I"/E.) - "A" TOTALLY SMOOTH - "INLET-WALL" GATE, - AT F. VERNON AVE. - (L.A.) - 8/ EXIT, -
AT "I"/E. - "SIDE LINE" - ("BRIQ", TO HAROLD DESMOND/RIVER OVERPASS.).
- BY "TOTALLY ENCLOSED" - ("PRESS" MOUNTED) - "FILE" - ("EXACTLY") - SOUTH - OF
"RIVER/BEND" - 8/ "INCH" RAIL - "OUTLET" - FROM LONG REACH. !! - TO "INTERSTATE"
- TRANSPORT - VIA CONVENTIONAL SP/UP SATHA/FE LINES.
- DRIVING - SHORT FLOOD CONDITIONS. 9/24/89.

CT 1 1988

Air Transport Association **ata** OF AMERICA

1709 New York Avenue, N.W.
Washington, D.C. 20006 5206
Phone (202) 626 4147

John H. Lents
Executive Officer
South Coast Air Quality
Management District

October 15, 1988

Dr. James M. Lents
Executive Officer
South Coast Air Quality
Management District
9150 Flair Drive
El Monte, CA 91731

Mr. Mark Pisano
Executive Director
Southern California
Association of Governments
600 South Commonwealth Avenue
Suite 1000
Los Angeles, CA 90005

Subject: Comments on the Draft 1988 Air Quality Management Plan

Gentlemen:

The Air Transport Association is submitting these comments on behalf of its member airlines who provide air transportation services to Southern California. ATA members include all major airlines and most nationals whose services include freight, mail and overnight package delivery as well as passenger carriage.

The Draft Air Quality Management Plan advanced by SCAQMD and SCAG is, as advertised, sweeping in scope and impact. If implemented as proposed, this plan would do more than just add costs to industries who unfortunately and unavoidably contribute pollutants to the air; it would precipitate major overhauls in many segments of commercial activity and change the basic character of some interstate and foreign commerce. While we understand the urgency of the Southern California environmental problem, we feel that the proposals directed at the aviation industry are more drastic than circumstances justify. For example, it is well known that airline aircraft contribute only about one percent to pollutants in metropolitan areas. It is also well known that airports generate vast wealth and numerous jobs to the communities surrounding them, over \$22 billion of economic benefits annually to California communities, for example.

The Draft Plan could impact the airline business in many ways, directly and indirectly. One proposal is to control pollutant emissions from aircraft. As you may be aware the U.S. EPA has set standards for control of pollutant emissions from aircraft, and the Federal Aviation Administration has implemented those standards through its aircraft certification and operating regulations. Together, these federal agencies preempt any and all state and local attempts to regulate aircraft emissions. By advising you of these facts, we do not wish to indicate any unwillingness on the part of the airlines to implement practical options available to them to improve the environment in Southern California; we merely wish you to be aware of the fact that regulation of aircraft emissions at the source is an area preemptively occupied by the Federal Government.

RESPONSES TO COMMENTS
AIR TRANSPORT ASSOCIATION OF AMERICA (10/15/88)
COMMENT LETTER #45

45-1 Additional information concerning the costs of the AQMP can be found in Appendix F -- Socioeconomic Impacts of the Air Quality Management District.

45-2 It is not the intent of the SCAQMD to preempt the authority of other governmental agencies through the implementation of various control measures. For additional information regarding implementation procedures, please refer to the responses for comments 2-10, 2-20 and 2-30.

000478

The Draft Plan will, if implemented, impact the airlines by way of controls on the use of coatings and solvents, controls on motor vehicles, controls on emissions from aircraft, centralized ground power and pre-conditioned air systems, airport ground access and replacement of high-emitting (FAR Part 36 Stage II) aircraft. The various control measures are proposed to be adopted and fully implemented between now and the year 2007. Based on our initial review, comments are offered on the following specific areas:

- 45-3 1. CONTROLS ON COATINGS AND SOLVENTS (adoption by 1991): Controls will address new low VOC paints, higher transfer efficiency methods of application and substitute solvents for clean-up. In addition, reduction in emissions from aerosol sprays will be addressed.

The impact will result in new paint products being used which will probably have a shorter life and result in higher cost to maintain the paint on ground equipment.

2. CONTROLS ON MOTOR VEHICLES (adoption by 1991): Controls will address the reduction of fuel use and the use of alternate fuels.

This alternative would produce an increase in the use of electrically powered ground equipment. There would also be a commensurate increase in electrical power demand and consumption at the terminal facilities to operate charging equipment. Local government would require the use of permits by each airport operator. A baseline of emissions data would have to be generated to monitor compliance for permit purposes. It is possible that a redesign of terminal facilities would reduce the overall need for ramp operating vehicles.

45-4 Implementation of such controls would result in large capital investments for new ground equipment and possibly new terminal facilities. The acquisition cost of the ground equipment would be offset to some extent by the lower maintenance and operating cost of the electric vehicles.

3. CONTROLS ON AIRCRAFT EMISSIONS (adoption by 1991): Proposed controls address ground taxi improvements, including increased engine speed during idle and decreased engine use during taxiing operation by using fewer engines to taxi. Reduced aircraft engine emissions are called for by retrofitting old engines and developing controls on new engines. Aircraft delays would be controlled by utilizing "gate hold" procedures, increasing capacity and improving the efficiency of airport runway and terminal facilities and utilizing high speed tow vehicles to tow aircraft to runways. Refinements of procedures used to control departure times would result in aircraft ground taxi improvements.

45-5 The impact of these controls would be increased capital cost to purchase high speed tractors. A similar proposal advanced in Massachusetts years ago determined that extensive towing would require redesign of aircraft landing gear and add huge operating costs due to the time delays anticipated. High cost would also be associated with any engine modification or replacement. Major changes in airline schedules and flight operations procedures will also occur under these controls.

45-3 Please refer to the response to comment 43-2.

45-4 Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

45-5 According to the District's CEQA guidelines, analysis of economic or social impacts is necessary only when effects would have significant impacts on environmental parameters (Section 9.11(b)). However, the District Staff would appreciate any additional information on the high speed tractor used in Massachusetts that you mention. This information will be forwarded to the District Board for evaluation. Additional information concerning the costs of the AQMP can be found in Appendix F - Socioeconomic Impacts of the Air Quality Management District.

644000

4. CENTRALIZED GROUND POWER SYSTEMS (adoption by 1991): Provides controls to reduce usage of auxiliary power units (APU) while aircraft are parked at the terminal gates, through provision and use of centralized power and air conditioning systems.

45-6 [The impact will result in an increase in the use of fixed centralized installations for aircraft electrical ground power, aircraft pneumatic air starting and pre-conditioned air. There will be an increase in electrical power demand and consumption at the terminal facilities to operate fixed installations. Local government will require the use of permits by each airport operator. A baseline of emissions data would be generated to monitor compliance for permit purposes. Implementation of such controls would result in large capital investments for fixed installations and modifications to existing terminal facilities. However, centralized motor-generator and solid state electrical ground power capital cost would be to some extent offset by lower maintenance and operating cost.

5. CONTROL OF AIRPORT GROUND ACCESS (adoption by 1990): These controls would reduce the number of air passenger automobile trips generated by the airport.

The impact of these controls would result in trip reduction plans which affect the ability of both passengers and airline employees to gain access to the airport facilities. At the present time a proposal like this is being evaluated in the Los Angeles International Airport Draft Environmental Impact Report - LAX 2000, and ATA will be filing a response to that proposal within the allotted comment period. We would be happy to provide a copy to SCAQMD and SCAG at that time.

6. REPLACEMENT OF HIGH-EMITTING AIRCRAFT (adoption by 1991): This plan calls for the phase-out of FAR Part 36 Stage II aircraft and transition to all State III aircraft with completion by January 1992.

This plan would require the use of new engines to meet Stage III regulations. The retrofitting of existing Stage II engines for noise control purposes would not be an admissible method of complying with this measure. While it is possible that some Stage III retrofit kits will reduce engine exhaust emissions, they would be cost prohibitive for some operators to purchase and install. At projected costs of over \$10 million per airplane for this modification using low-emission, high bypass engines, the airline fleet could not be upgraded under this plan.

The ATA is grateful for this opportunity to comment on the Draft Plan, and we urge your consideration of these views.

Sincerely,

L & Call
for ✓ Clyde R. Kizer



American Gas
Association

1515 Wilson Boulevard, Arlington, Va. 22209
Telephone (703) 841-8600

George H. Lawrence
President

October 25, 1988

RESPONSES TO COMMENTS
AMERICAN GAS ASSOCIATION (10/25/88)
COMMENT LETTER # 46

Ms. Suzanne Reed
Special Projects Coordinator
South Coast Air Quality
Management District
9150 Flair Drive
El Monte, California 91731

Dear Ms. Reed:

The American Gas Association (A.G.A.) is a national trade association, composed of some 250 natural gas distribution and pipeline companies who serve customers throughout the United States.

A.G.A. is pleased to have this opportunity to comment on your agency's draft 1988 Air Quality Management Plan. We commend the South Coast Air Quality Management District (SCAQMD) for the obvious thought and energy that has been invested in this 20-year blueprint for improved air quality.

A.G.A. is already involved in the proceedings on Rule 1601: a potentially historic mandate for fleet vehicle shifts to alternative transportation fuels, including natural gas. A.G.A. has made numerous submissions and has participated in the SCAQMD Advisory Committee on Rule 1601, where we are represented by Don Schellhardt, A.G.A.'s Special Counsel and Executive Assistant to the Executive Vice President.

Yet, A.G.A.'s interest in the Los Angeles Basin is not confined to natural gas vehicles alone. Greater Los Angeles has a larger population than 47 states; it consumes roughly one trillion cubic feet of natural gas every year; and it is often a trendsetter for the rest of the nation. Therefore, the natural gas industry has a clear stake in the SCAQMD proceedings on the draft 1988 Air Quality Management Plan.

In today's filing, we limit ourselves to three basic points.

- 46-1 | 1. Domestic gas resources are large enough to support sustained use of natural gas at current levels OR HIGHER LEVELS. This is good news for the environment, since natural gas is clearly the cleanest-burning fossil fuel with respect to a wide range of pollutants, including carbon monoxide, sulfur dioxide, and carbon dioxide.

Thus, there are clear environmental reasons to expand gas use in the Los Angeles Basin. There are no supply-related reasons to hold back.

46-1

Your comment is noted and will be forwarded to the District Board for consideration in making its decision on the AQMP.

000481

We acknowledge that there may be occasional, localized difficulties with gas deliverability. However, any such difficulties should be easily remedied because they are the result of either regulatory practices or operational logistics. Moreover, as demand rises, price should rise slightly, creating an incentive for increased drilling and production. So long as the domestic natural gas resource base remains free of price controls and other artificial impediments, the resource base is large enough to meet substantially higher levels of gas demand -- and it is also large enough to quickly overcome the results of occasional marketplace misjudgments.

A.G.A. does not stand alone in pointing to a large domestic natural gas resource base. The same conclusion has been reached in a landmark new study on natural gas supplies by the U.S. Department of Energy (DOE) entitled An Assessment of the Natural Gas Resource Base of the United States. A copy of its Executive Summary has already been submitted to SCAQMD, as an attachment to a July 7, 1988 letter from A.G.A.'s Don Schellhardt to SCAQMD's Larry Bowen.

In this May 1988 study, which drew upon the knowledge of a number of expert panelists, DOE focused on conventional natural gas resources that are domestically available and can be recovered with today's technology. The study found that, in the lower 48 states alone, the proven reserves and currently undiscovered supplies total 1,059 trillion cubic feet (Tcf). At today's level of nationwide gas consumption, this amount is equivalent to a 62-year supply.

DOE further found that, of this 62-year supply of technologically recoverable gas, the equivalent of a 35-year supply is available at wellhead prices below \$3.00 per million Btu's (MMBtu). This wellhead price range is not too different from prices which prevail today. DOE also found that this 35-year supply can rise to a 45-year supply if wellhead prices rise to a range between \$3.00 per MMBtu and \$5.00 per MMBtu. Such a wellhead price range is markedly above today's prevailing prices, but still within the historical experience of gas consumers in the early 1980's.

These supply figures do not include vast natural gas resources in Alaska (estimated by DOE at 129 Tcf), Canada and Mexico. Nor do they include possible supplies from less conventional domestic sources, such as coal gasification.

In short, DOE's estimates of gas ultimately available to American consumers can be considered conservative.

We add that DOE's resource base estimates are similar to the most recent estimates made by the Potential Gas Committee (PGC): a body of independent experts from throughout the natural gas industry. According to the latest PGC study, in the lower 48 states alone, conventionally recoverable gas at year-end 1986 (including "proven" reserves, which are already known to exist) was 779 Tcf. At current gas consumption rates of roughly 17 Tcf per year, the PGC estimate is equivalent to a 46-year supply.

Since the PGC supply estimate is based on wellhead prices in today's price range, the 46-year supply estimate by the PGC is even higher than the 35-year supply that DOE foresees at today's wellhead price levels.

Whether SCAQMD prefers the DOE or the PGC, it is clear that the lower 48 states alone can produce enough natural gas to meet expanded gas demand in the Los Angeles Basin.

46-2 2. Natural gas vehicles, and other gaseous-fueled vehicles, should be full participants in every regulatory effort to promote use of alternative transportation fuels. Indeed, regulatory policy should allow free competition between ALL energy sources that can meet the specified air quality goals.

We have stressed this point repeatedly in our communications with the Management District, and we are heartened that SCAQMD's Rule 1601 seems to be moving in this direction.

We have also stressed, to the Management District and many others, that:

- Natural gas vehicles can simultaneously reduce a wide range of pollutants in the Basin by a substantial amount;
- Transportation fuel costs for natural gas are lower than those for gasoline and for other liquid fuels, by a healthy margin;
- In many cases, the low fuel costs for natural gas vehicles offset capital costs to a degree that yields short capital payback periods;
- Natural gas vehicles offer the added advantage of reducing our reliance on energy imported from potentially unreliable sources by substituting an energy source that is predominantly domestic and almost exclusively North American; and
- The natural gas industry has made a major commitment to putting natural gas vehicles on the road in growing numbers.

46-2

Your comment is noted and the District concurs. A discussion of the benefits of use of natural gas is on pages 4-14-9 to 4-14-22.

000403

For purposes of the SCAQMD proceedings on the draft 1988 Air Quality Management Plan, we hereby incorporate by reference all of the comments and submissions that we have made in the SCAQMD Docket on Rule 1601. These comments and submissions include the following:

(a) The previously referenced July 7, 1988 letter from A.G.A.'s Don Schellhardt to SCAQMD's Larry Bowen, plus all of the various attachments to that letter.

(b) The September 8, 1988 letter from A.G.A.'s Don Schellhardt to SCAQMD's Anupom Ganguli, plus the attachment to that letter (which was a copy of A.G.A.'s June 13, 1988 written comments on the Environmental Protection Agency's proposed Federal Implementation Plan for Maricopa County, Arizona).

(c) The September 9, 1988 transmittal, from A.G.A.'s Don Schellhardt to SCAQMD's Anupom Ganguli, Larry Bowen and Larry Irwin, of copies of A.G.A.'s written testimony for the September 9, 1988 California Air Resources Board Public Meeting on Alternative-Fuel Vehicles. The same submission to SCAQMD included all of the A.G.A. testimony attachments received by the California Air Resources Board.

(d) The October 17, 1988 transmittal, from A.G.A.'s Don Schellhardt to SCAQMD's Anupom Ganguli, of Volume Two of DOE's ongoing study of natural gas vehicles and other alternative-fuel vehicles. This latest report, entitled The International Experience, offers information on the results of public policy in countries that have so far done more than the United States to promote alternative-fuel vehicles.

We believe that the documents referenced above will more than substantiate the merits of including natural gas vehicles as full partners in any efforts to promote alternative-fuel vehicles.

46-3 3. The South Coast Air Quality Management District should not embrace a sweeping substitution of electrification for combustion.

The draft 1988 Air Quality Management Plan appears to contemplate a long-term strategy based on mandating electrification of the Los Angeles Basin, wherever and whenever this is technologically possible.

Such a policy, if embraced, would be a major mistake.

First, the AQMP appears to be unconcerned with the importance of energy efficiency as a potential air quality strategy. The total cycle of energy efficiency of the electrification process will be LOW, when compared to direct on-site combustion of whatever fuel is being burned at the powerplant. Currently, natural gas use for many high

46-3

The AQMP's proposals to examine cleaner-burning fuels are not limited to electricity. The District is going forward with its clean fuels program (Regulation XVI and Rule 1601), which will include all fuels demonstrated to be environmentally safe and effective in reducing criteria pollutant emissions. This program includes methanol as well as CNG, LPG, hydrogen, electricity, etc.

000434

temperature applications is the most efficient form of energy usage. Displacement of natural gas by electricity will require a net increase in source energy consumption to accommodate electrification. As a technological corollary, the total cycle carbon dioxide emissions will be HIGH, when compared to direct on-site combustion of whatever fuel is being burned at the powerplant. Of course, natural gas burned at a powerplant would produce less carbon dioxide than coal burned at a powerplant, or even coal burned at the point of end use, but none of these options can match the low emissions from natural gas burned at the point of end use.

Moreover, natural gas is cleaner for all pollutants, not just carbon dioxide. For example, a recent study of pollution associated with residential energy consumption in the United States found that when emissions from the full energy cycle are considered, use of natural gas space heating and other appliances results in only 15 to 20 percent of the total air emissions, and less than one percent of both the total water pollutants and noncombustible solid wastes compared to electric appliances. These considerations may become compelling in a world that is increasingly concerned about a possible "Greenhouse Effect". Carbon monoxide pollution or sulfur dioxide pollution may be potentially "exportable", if viewed from a purely local perspective, but avoidable "Greenhouse Effect" emissions anywhere could affect everybody everywhere.

Second, it is highly improbable that the needed increments of new electric power could actually be made available on the massive scale required. By definition, this massive new power generation capacity would have to be based outside of the Los Angeles Basin. Yet a chain of recent events in American history, including the uproar over the ill-fated Kaiparowitz powerplant, makes it clear that new powerplants are rarely welcomed in the "host" areas. These powerplants invite particularly intense opposition when the "host" areas would receive little or none of the power to be generated. A consciously constructed, highly visible, publicly announced policy of consistently "exporting pollution" from Los Angeles to "host" areas would be a one-way ticket to tumultuous politics. Such a cauldron of boiling emotions would be unlikely to yield approval of the new power generation capacity upon which the contemplated electrification directives are premised.

Third, as a less dramatic point, it is far from clear that all combustion applications can be modified to accommodate a shift to electrification. We suspect that a technology-by-technology review would reveal that it may not be technically or operationally feasible to employ Basinwide electrification on the scale that the draft 1988 Air Quality Management Plan appears to envision.

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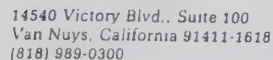
In any event, let me say again that we at A.G.A. are grateful for this opportunity to assist in shaping the new Air Quality Management Plan. We invite you to call upon us whenever we can furnish information, or other assistance, and we look forward to continued participation as your agency moves along the cutting edge of environmental policy.

Sincerely,


George H. Lawrence

cc: Larry Bowen, SCAQMD
Anupom Ganguli, SCAQMD
Jim Gourley, Southern California Gas
Larry Irwin, SCAQMD
Don Schellhardt, A.G.A.
Leo Thomason, Southwest Gas

000436



The Honorable A. Norton Younglove
Chairman of the Board
South Coast Air Quality Management District
9150 Flair Drive
El Monte, CA 91731

The Greater Van Nuys Area Chamber of Commerce has reviewed the June, 1988, "Summary of Proposed Measures, Major Policy Issues", issued by SCAQMD and SCAG. At this time, we have several comments relative to those Policy Proposals.

- 47-1 1. It appears the cost will be extremely high. Probably too high. Estimates run as high as \$4 billion per year. Even at half that amount, the measures proposed will result in massive reductions of employment as firms must either go out of business or move out of the area. 47-1
- 47-2 2. It appears that all or most of the proposals call for year-around reductions. Again the costs will be prohibitive, and some of those reductions are really only necessary from ten to thirty days a year at most. 47-2
- 47-3 3. Not much chance has been given to the public to study the measures. As we understand it, the district is planning on adoption in November. We believe much more time is necessary if the public is to be given a fair chance to review the proposals. We understand that EPA has put pressure on you to come up with proposals. We also are aware that the air in this region is difficult to keep clean, to meet federal and state standards. But to adopt rules without regard to the economic impact or without giving the public an ample opportunity to study and understand those rules--and how those rules will affect them--will not be serving the best interests of the district. 47-3

We respectfully urge that the South Coast Air Quality Management District postpone adoption of the proposals for at least one year to allow more time for public consideration.

1.5 - 1.6

Flip Smith
President

47-1 Please refer to the response for comment 45-5.

47-2 Please refer to the response for comment 44-6.

47-3 Your comment is noted. CEQA Section 15087 (c) permits public review periods ranging from 30 to 90 days with a standard 45 day public review period for most documents. To date, the AQMP EIR has been available for comment a total of 104 days. The dates are as follows:

- a) September 12, 1988 to October 27, 1988 -- Initial 45-day review of the Draft AQMP EIR
- b) December 2, 1988 to December 16, 1988 -- 14-day review period for the December EIR
- c) December 19, 1988 to February 1, 1989 -- 45-day review for the December EIR

The public review and comment period for the AQMP EIR exceeds that required and allowed by CEQA and the CEQA Guidelines.



Alan F. Pegg
General Manager

NOV - 8 1988

RESPONSES TO COMMENTS
RAPID TRANSIT DISTRICT (11/03/88)
COMMENT LETTER #48

NOV 03 1988

Dr. James M. Lents
Executive Officer
South Coast Air Quality Management District
9150 Flair Drive
El Monte, California 91731

Dear Dr. Lents:

Thank you for the opportunity to comment upon the Draft 1988 Air Quality Management Plan (AQMP). Preparation of this plan, in conjunction with preparation of the Regional Mobility Plan (RMP), the Growth Management Plan, and other plans, contributes to an essential regional planning effort to manage projected growth into the next century while maintaining or improving the desirable environment which continues to attract new residents.

The District previously commented on Policy Proposals for the 1988 Air Quality Management Plan and has also participated in the review of SCAG's Regional Mobility Plan. As we understand it, the Regional Mobility Plan as a whole will be incorporated into the final AQMP, reflecting the reality that retaining mobility will require reducing vehicle travel, and that reducing congestion also generates air quality benefits. Additionally, measures dealing with demand management and transit are explicitly included in draft versions of both the AQMP and the RMP. The comments I wish to make today address primarily this overlap between the AQMP and the RMP, including the proposed financial plan presented in the latest draft RMP. We expect to transmit additional comments on the Regional Mobility Plan to SCAG prior to the end of their comment period in November.

As you know, the SCRTD's Director of Equipment Maintenance has participated actively on the SCAQMD's Fleet Advisory Committee and we submitted formal comments to you in September regarding Proposed Rule 1601 - Fleet Conversion to Clean Fuels. We must emphasize that while the District is fully committed to achieving maximum reductions in transit vehicle emissions, we cannot responsibly guarantee conversion to an alternative fuel transit fleet until a specific alternative is proven safe and effective under real-world operating conditions. The need for additional sources of funding, both to acquire new vehicle technologies, and to operate a clean fuel transit system, must also be underscored.

The District supports the designation of transit as a key element of the regional strategy for providing mobility and improving air quality. Meeting regional goals will require transit to be enhanced to become an attractive mode choice for all classes of riders, not just the "transit dependent". As detailed in the EIR for the Regional Mobility Plan,

48-1

The District does not intend to delay the AQMP to evaluate the potential of methanol to reduce mobile source emissions. The District is going forward with its clean fuels program (Regulation XVI and Rule 1601), which will include all fuels demonstrated to be environmentally safe and effective in reducing criteria pollutant emissions. This program includes methanol as well as CNG, LPG, hydrogen, electricity, etc. An expanded discussion of methanol can be found in Attachment 6 -- Methanol.

48-1

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expectations for transit within Los Angeles County include increasing the home-work transit mode split to 45% in centers and 25% countywide, versus a 9% countywide home-work transit mode-split modeled for 1984. Transit service expansion and modification of transit versus automobile incentives will make transit more convenient and competitive than ever before. Frequency and ubiquity are fundamental aspects of transit service; by expanding service in these respects, the convenience and perceived quality of transit service will be significantly improved.

ISSUES:

Transit Vehicle Emissions Reductions At a recent American Public Transit Association meeting on alternate fuels, many participants agreed that EPA 1994 heavy-duty vehicle emissions requirements will be met by using low sulfur and possibly low aromatic diesel fuels in combination with a particulate trap. There are also strong arguments for the development of compressed natural gas (CNG) vehicles which can potentially be much more effective than methanol from a fuel standpoint. The District supports the establishment of effective emissions specifications. To achieve reductions as quickly and as affordably as possible, we support leaving the choice of technologies used to the manufacturers and operators.

Before any final standards are adopted, we suggest that the SCAQMD reexamine its modeling assumptions against the recent vehicle emissions research results coming out of Canada. We also suggest that California standards and implementation schedules not be so stringent, compared to standards in other states, that vehicle manufacturers in the short term will simply opt out of the California transit market.

Trip Reduction In reviewing the overall Regional Mobility Plan we note that the largest mitigation of peak period travel is accomplished by the proposals for expansion of alternative work weeks and telecommuting. The RMP assumes that these actions alone can reduce 3.0 million home-work trips, a full 30% of all home-work trips predicted under the baseline scenario. While these proposals may be very cost-effective ways of reducing congestion and pollution, we question the number of trips which are eliminated. In particular, it appears that goals for telecommuting may be optimistic. Given this heavy emphasis on work trip reduction, actual future needs for transit or other mobility alternatives may be even higher than projected in the Plan, if this trip reduction goal is not achieved.

Job-Housing Balance Growth management to achieve improved regional job-housing balance is another central element of the RMP and AQMP. By providing increased opportunities for persons to work in the same sub-region in which they live, this measure offers the potential to reduce the average length of trips thus reducing both congestion and emissions generated by commuting in a cost-effective manner. Aside from reducing the average length of auto commutes, improved job-housing balance also makes it attractive for more workers to walk, bicycle, or ride transit to work.

48-2

The Trip Reduction emissions estimates are appropriate to the general level of the document as they are required under CEQA for a general plan (see Executive Summary). These emissions estimates will be refined as the control measures are developed into specific rules.

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Land Use and Facilities While funding availability is clearly one major constraint affecting achievement of Plan goals for transit, land use issues will also be central. For transit to achieve the expansion programmed for it, successful resolution of three major land use issues will be required:

1. Most obviously, development of fixed guideway facilities (subways, busways, light rail lines) will require political consensus among planners, businesses, and affected residents for designation of alignments which are acceptable to neighboring land uses as well as cost-effective for transit.
2. To support the use of transit for all trip purposes, innumerable local planning and development actions need to be influenced to incorporate design measures to make transit use safe and convenient. Although not "glamorous" like construction of new guideways, these relatively inexpensive actions can be critical for public acceptance of transit by improving comfort, safety, and convenience relative to the auto. Examples of measures supporting transit and other alternatives to the use of single-occupant automobiles are:
 - provision of transit information displays in public areas
 - construction of bus shelters at transit stops
 - designation of ridesharing/transit coordinators for large developments and provision of incentives for the use of ridesharing alternatives
 - reduced parking requirements for new developments
3. Lastly, transit needs sites for operating and support facilities if it is to fulfill the expectations placed upon it. Compared to the massive displacement associated with the expansion of urban freeways, or the neighborhood and environmental degradation associated with arterial widening, transit's facility siting needs are relatively modest. Transit's facility needs can also be compared favorably to the immense requirements for parking facilities demanded by an auto-dominated transportation system.

While many transit facilities have flexibility for location on the most appropriate sites in a subregion, transit can not be relegated solely to remote industrial areas. Despite its many advantages for mobility and air quality, transit is not likely to maintain public support without preserving cost-effectiveness. Strategically located facilities are essential for providing convenient, cost-effective transit in such a large region as ours.

Recently, the District has been required to devote substantial efforts to defending continued operation at two of its facilities, even though the sites have been used for transit purposes since the beginning of the century. Politicians and the public must realize that transit is an essential element of the urban mobility infrastructure and that efficiently located facilities are necessary

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for transit to be successful. For its part, the District and the transit industry must recognize the responsibility to be as sensitive as possible to neighborhood concerns, and be prepared to be persuasive in procuring the capital funding necessary so that new facilities can be made fully environmentally acceptable.

Financial Plan The proposed financial strategy includes user charges, value capture mechanisms, and general taxation measures. Capital costs are shown for highways, transit, and demand management. Operations and maintenance costs are also projected. Capital and maintenance costs for local streets and roads are explicitly excluded. Costs for private purchase and operation of automobiles are ignored except for discussion of increases in user fees. Capital and operating costs for parking are similarly disregarded.

48-3

The District suggests that the financial plan incorporate a broader discussion of transportation costs which demonstrates the full extent of savings which will be generated by the adopted strategy, as compared to other strategies considered, or to the "do-nothing" approach. This discussion should highlight the full range of costs which could be avoided by reducing dependence on the auto, including reduced fuel, insurance, and repair costs, reduced street and road costs, reduced accident losses, and reduced individual and business expenditures for parking. Given the region's mobility and air quality goals, any program which is successful will be broad enough that it will enable many households to actually give up their second or third car, thus crossing a key threshold for cost avoidance which is not achieved with marginal changes in the transportation system.

Such a discussion may be necessary, in part, to counter the impression created by a cursory overview of the financial plan, that highway capital and operating costs can largely be funded out of existing revenue sources, while transit capital costs are 72% unfunded and transit operating costs 55% unfunded out of existing sources. The implication that we can perhaps "afford" the highway element, but not the transit element, needs to be refuted conclusively. A more thorough examination of the total public and private costs of continued reliance on the automobile would contribute to this discussion. A brief review of the costs associated with the previously rejected mobility strategies, particularly Strategy 1 (facilities approach), would also contribute to understanding the favorable relative cost-effectiveness of the selected strategy and of transit in general.

On the revenue side, the District suggests that third party subsidies be recognized as a major revenue generator for transit. This would include the value of transit passes provided by employers for their employees (perhaps also for employees family members), transit passes "bought down" by local governments for the elderly, handicapped, and other special groups, and transit subsidies provided by retailers or special event sponsors. While third party subsidies presently exist in several forms, the current volume of subsidies is small relative to what they should be, given the ongoing implementation of Regulation XV requirements and similar programs proposed in the Demand Management section of the Plan.

48-3

The Draft Regional Mobility Plan (October, 1988) includes both revised cost figures and a financial plan to raise shortfalls in both capital and operating and maintenance costs (Chapter VI). The plan sets forth a multi-source financial plan, which includes possible increases in state or local gas taxes. If selected as financing tools, these two specific sources of revenue would also raise monies for local government streets and roads. Revenues for system management programs which directly affect local governments could be paid for with monies estimated from existing revenue sources.

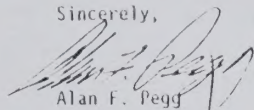
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With existing fare structures and public subsidy levels, the primary economic benefit of current third-party subsidies is gained by special rider groups, rather than by transit operators or the broader community. In the future, third party subsidies should be available to a majority of the populace, as parking subsidies are presently almost universally available. Transit operators will then be able to increase fares to recover a higher portion of operating expenses from the farebox, thus reducing their need for subsidies without discouraging transit ridership. As transit approaches 100% farebox recovery, public operating subsidies will be needed only for those unemployed or low-income riders who have no other source of subsidy available, and all other subsidies would be available for capital purposes.

48-4 As a final comment on the financial plan, the District notes that the \$1.51 billion estimated annual operating costs for "Demand Management Ridership Maintenance" appear very large, especially compared to the \$2.96 billion projected annual operating costs for transit. The only explanation for these costs is that they have to do with rider matching services, and perhaps vehicle costs, for carpools and vanpools. The costs seem excessive given that total ridesharing participation (including vanpooling, as best as we can determine) is only projected to increase from 1.37 million to 1.61 million daily home-work trips over the period of Plan implementation. Projected "Ridership Maintenance" costs also seem high considering the separately identified \$250 million costs for "Demand Management - Vehicle Operations". The financial plan also neglects to consider the value of tax credits for vanpools proposed in the demand management program Action Plan. To the extent such credits are granted, they should reduce the need for other vanpool funding.

We appreciate the opportunity to comment on the Air Quality Management Plan. Our comments are meant to be positive and constructive. The SCRTD appreciates the Plan's recognition of transit's importance to the region. We look forward to working with you further in efforts to provide transit vehicles with the lowest possible emissions levels, while maintaining and increasing levels of transit service. If you have any questions or concerns regarding our comments on the broader aspects of the AQMP or the Regional Mobility Plan, please contact our Director of Planning, Mr. Gary S. Spivack at (213) 972-4880. Questions regarding transit vehicle emissions should be directed to Mr. L. R. Davis, Director of Equipment Maintenance, at (213) 237-0100.

Sincerely,



Alan F. Pegg

cc: Mark Pisano, SCAG
Suzanne Reed, SCAQMD

48-4

Your comment is noted. Please refer to the response for comment 48-2. Additional information concerning the costs of the AQMP can be found in Appendix F -- Socioeconomic Impacts of the Air Quality Management District.

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